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VOL. VII.—PART I.

James Kennie
THE
MENAGERIES.
QUADRUPEDS.

VOL. 2.

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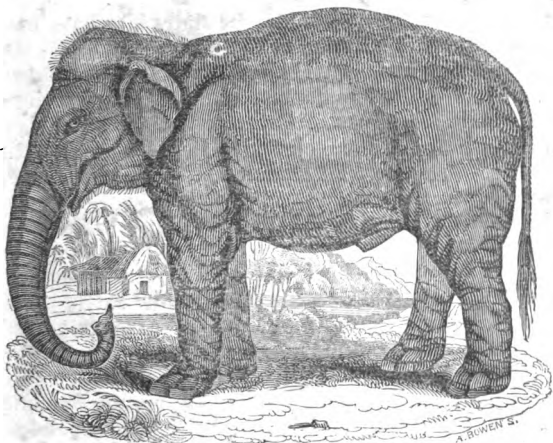
THE ELEPHANT.

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THE MENAGERIES.

CHAPTER I.

THE ELEPHANTS OF THE MENAGERIES.



*The Indian Elephant. — Elephas Indicus, Cuvier.**

IN the year 1681 an elephant was accidentally destroyed by fire, in a booth, in the city of Dublin; 'and when the fire was extinguished, every one endeavoured to procure some part of the elephant, few of them having seen him living, by reason of the great rates put upon the sight of him.'† We men-

* From a young female in Mr Cross's Menagerie, in 1828.

† Anatomical account of the Elephant accidentally burnt in Dublin, 1682.

tion this circumstance to contrast it with the familiar acquaintance which almost every child of the present day has with this quadruped.

A century and a half ago, the elephant was rarely brought to these islands; and, for this reason, the multitude had not only extravagant ideas of the intelligence of this most interesting animal, but believed a great many absurdities regarding it, which opportunities of observation would have speedily eradicated. Thus, when Sir Thomas Brown wrote his 'Enquiries into vulgar and common Errors,' he states it to have been the prevalent opinion up to his time (about 1670) that the elephant had no joints, and that it never lay down. In a very curious specimen of our early natural history, 'The Dialogues of Creatures Moralyzed,' mention is made of 'the olefawnte that boweth not the knees.' In an old play printed in 1633, a woman is described as 'stubborn as an elephant's leg—no bending in her;' and Shakspeare makes Ulysses, in Troilus and Cressida, say, 'the elephant hath joints, but none for courtesy: his legs are legs for necessity, not for flexure.' These passages show the extent of the popular notion; to refute which Sir T. Brown appeals to experience, 'whereof not many years past we have had the advantage in England, by an elephant shown in many parts thereof, not only in the posture of standing, but kneeling and lying down.*' This exhibition appears to have produced the beneficial effects of all direct appeals to the senses, with respect to errors which are capable of being refuted by such a test; for it seems that the false opinions regarding the elephant were 'well suppressed,' by the demonstration that he had no difficulty in assuming those positions which, on account of his bulk, were affirmed to be impossible.

Sir Thomas Brown, however, dreads the revival of

* Book iii, chap. 1.

the error, in the next generation, ‘from some strings of tradition;’ for he argues, that as this was not the first elephant that had been seen in England, the effect of the truth might wear away, as it had before yielded to vulgar prejudice. It is quite clear, both from the general tone in which this writer mentions the subject, and from the particular facts upon record, that elephants were scarcely known in Europe as recently as the middle of the seventeenth century. Lewis IX, of France, indeed, sent an elephant to our Henry III, which was probably procured from some of the African chiefs, at the period when the French king invaded Palestine by the way of Egypt. This elephant was kept in the Tower of London; and with somewhat more of comfort to himself, as to the space in which he was confined, than the pent-up animals of our modern menageries: for the king, in a precept to the sheriff of London, in 1256, says, ‘we command you, that, of the farm of our city, ye cause, without delay, to be built at our Tower of London, one house of forty feet long, and twenty feet deep, for our elephant.’* Emanuel of Portugal, also, sent a remarkable elephant to Pope Leo X, which was exhibited at Rome; and Cardan, about the same period (the beginning of the sixteenth century), describes an elephant which he had seen at the court of the Queen of Bohemia, the daughter of the Emperor Charles V.† With the additional exception of an elephant, which was sent to Charlemagne, in the year 802, by Haroun Al Raschid, caliph of the Saracens, there is no account of the animal being brought to Europe, after the time when the early Byzantine monarchs, in imitation of the princes who reigned before the division of the Roman empire, exhibited him to the people in the cruel sports of the Circus.

* Maitland’s London, vol. i, p. 171. — Edit. 1772.

† *Physicæ Curiosæ*, p. 1024.

Even in the time of Justinian (A. D. 527), the elephant was rarely shown either at Rome or Constantinople.*

During the middle ages, little or nothing was known of the elephant, except through the inaccurate representations of the animal upon medals. The figure of the elephant was used, too, in heraldry, with a tower on his back. When the arts were little practised in England the representation was rude enough; as may be seen on an ancient plate in St Mary's Hall, at Coventry: and, probably, from this inaccuracy of form, the multitude, with the common disposition to burlesque, converted the 'Elephant and Castle' into 'the Pig and Whistle.' Up to the time of the revival of letters, and indeed till the end of the sixteenth century, the people of Italy, whose ancestors had been so familiar with this quadruped, accounted all that was said about his sagacity as a fable, and had no idea of his form, except as to its vastness.† But the growing intercourse of the moderns with distant countries, and the spirit of curiosity which more particularly belongs to commercial nations, gradually rendered the elephant a somewhat common object in most large collections of foreign animals—at least after the Portuguese had penetrated to the interior of Africa, and the discovery of the passage to India had gradually led to the establishment of European settlements in the East. In this way the French king had an elephant at Versailles, which came from Congo, and which died in 1681.‡ Thamas Kouli Khan, in 1741, sent

* See Cuper de Elephantis; in *Novus Thesaurus Antiquitatum Romanorum*, congestus ab. A. H. de Sallengre, t. iii, p. 248.—1719.

† Pierius, *Hierogl. lib. ii, cap. 18*; quoted in Sallengre.

‡ Perrault, *Mémoires pour servir à l'histoire Naturelle des Animaux*, tom. ii, p. 503.

fourteen as a present to the Czar of Russia ;* and they have become so easy of attainment in England, that we may readily believe an anecdote told regarding the elephant which lately died at Chiswick, — that the Duke of Devonshire, having been asked by a lady of rank what she should send him from India, and having laughingly answered, ‘ Oh, nothing smaller than an elephant,’ was surprised to find, at the expiration of some months, a very handsome female of the species consigned to his care.

The Duke of Devonshire’s elephant was kept at his grace’s villa at Chiswick, under circumstances peculiarly favourable to its health and docility. The house in which she was shut up was of large dimensions, well ventilated, and arranged in every particular with a proper regard to the comfort of the animal. But she often had the range of a spacious paddock ; and the exhibition of her sagacity was therefore doubly pleasing, for it was evidently not affected by rigid confinement. At the voice of her keeper she came out of her house, and immediately took up a broom, ready to perform his bidding in sweeping the paths of the grass. She would follow him round the enclosure with a pail or a watering-pot, showing her readiness to take that share of labour which the elephants of the East are so willing to perform. Her reward was a carrot and some water ; but previously to satisfying her thirst by an ample draught, she would exhibit her ingenuity in emptying the contents of a soda-water bottle, which was tightly corked. This she effected in a singularly adroit manner. Pressing the small bottle against the ground with her enormous foot, so as to hold it securely at an angle of about forty-five degrees, she gradually twisted out the cork with her trunk, although it was very little above the edge of the

* *Lévesque, Histoire de Russie.*

neck: then, without altering the position, she turned her trunk round the bottle, so that she might reverse it, and thus empty the water into the extremity of the proboscis. This she accomplished without spilling a drop; and she delivered the empty bottle to her keeper before she attempted to discharge the contents of the trunk into the mouth. She performed another trick which required equal nicety and patience. The keeper, who was accustomed to ride on her neck like the *mohouts*, or elephant drivers of India, had a large cloth or housing, which he spread over her, when he thus bestrode her in somewhat of oriental state. Upon alighting, which she allowed him to do by kneeling, he desired her to take off the cloth. This she effected by putting the muscles of her loins in action, so that the shrinking of her loose skin gave motion to the cloth, and it gradually wriggled on one side, till it fell by its own weight. The cloth was then, of course, in a heap; but the elephant, spreading it carefully upon the grass with her trunk, folded it up, as a napkin is folded, till it was sufficiently compact for her purpose. She then poised it with her trunk for a few seconds, and by one jerk threw it over her head to the centre of her back, where it remained as steady as if the burden had been adjusted by human hands. The affection of this poor animal for her keeper was very great. The man who had the charge of her in 1828, when we saw her, had attended her for five years, having succeeded another who had been with her eight or ten years. When first placed under his charge, she was intractable for some time, evidently resenting the loss of her former friend; but she gradually became obedient and attached, and would cry after him whenever he was absent for more than a few hours. The elephants of India, in the same way, cannot easily be brought to obey a stranger, and ma-

nifest a remarkable knowledge of their old mohouts if they should meet after a long separation.* The elephant of the Duke of Devonshire was about twenty-one years old when she died, early in 1829. We have understood that the disease which carried her off was pulmonary consumption.

The inhabitants of London have recently witnessed the dramatic exhibition of an elephant, which has afforded them a more remarkable example of the sagacity of this quadruped than the ordinary docility which it manifests at the command of the showman. The elephant which, in the last winter, attracted crowds to the Adelphi Theatre, was probably not more sagacious than the greater number of her species; but she was well disciplined, and she exhibited her feats with considerable effect, by their adaptation to scenic display. To march in a procession, to kneel down without any more perceptible bidding than the waving of a hand, to salute a particular individual, to place a crown upon the head of 'the true prince,' to eat and drink with great gravity and propriety of demeanour, and to make her reverence to an audience without any apparent signal, are very striking evidences of the tractability of the creature; but they are by no means of the class of novel exhibitions, and they have been excelled by other performances, of which we have a distinct record. One of the most remarkable narratives of the ancient display of elephants in a theatre, is that of Ælian, who has described, in a very lively manner, the extreme docility of the elephants of Germanicus. At that period elephants were *bred* at Rome — a fact which has been most unaccountably overlooked in the descriptions of modern naturalists, but the practicability of which has received abundant confirmation from recent experience. Great care, according to Ælian, was paid to their health; and

* See Williamson's *Oriental Field Sports*, p. 41.

the nicest discipline was used to extinguish whatever was ferocious in their nature, and to call forth their sagacity by undeviating kindness. Particular attention was directed to the effect of music upon them; and they were so accustomed to musical instruments, that they not only lost all dread of the clashing of cymbals, but learnt to feel delight at the gentle notes of flutes, and would beat time with their feet when their ears were gratified with the agreeable sounds to which they were habituated. Their keeper accustomed them also to the sight of great multitudes of people. Upon an occasion when a particular exhibition of the docility of the elephants was required, twelve of the most sagacious and well-trained were selected, who, marching into the theatre with a regular step, at the voice of their keeper moved in harmonious measure, sometimes in a circle, and sometimes divided into parties, scattering flowers over the pavement. In the intervals of the dance, they would beat time to the music, still preserving their proper order. The Romans, with their accustomed luxury, feasted the elephants, after this display, with prodigal magnificence. Splendid couches were placed in the arena, ornamented with paintings, and covered with tapestry. Before the couches, upon tables of ivory and cedar, was spread the banquet of the elephants, in vessels of gold and silver. The preparations being completed, the twelve elephants marched in, six males clad in the robes of men, and six females attired as women. They lay down in order upon their couches, or '*Tricliniums* of festival recumbency,'* and, at a signal, extended their trunks and ate with most praiseworthy moderation. Not one of them, says Ælian, appeared the least voracious, or manifested any disposition for an unequal share of the food, or an undue proportion of

* Sir T. Brown.

the delicacies. They were as moderate, also, in their drink, and received the cups which were presented to them with the greatest decorum.* According to Pliny, at the spectacles given by Germanicus, it was not an uncommon thing to see elephants hurl javelins in the air, and catch them in their trunks, fight with each other as gladiators, and then execute a Pyrrhic dance. Lastly, they danced upon a rope, and their steps were so practised and certain, that four of them traversed the rope, bearing a litter which contained one of their companions who feigned to be sick.† This feat of dancing or walking upon a rope, might, perhaps, be doubted, if it rested merely upon the testimony of a single author; but the practice is confirmed by many ancient writers of authority, who agree with Pliny, that the elephants trained at Rome would not only walk along a rope forward, but retire backward with equal precision. Seneca describes an elephant who, at the command of his African keeper, would kneel down, and walk upon a rope.‡ Suetonius also mentions, that an elephant, in the presence of the Emperor Galba, climbed up an inclined rope to the roof of the theatre, and descended in the same way, bearing a sitter.§ Dion gives a similar testimony to the extraordinary power of so heavy an animal to walk along a rope without any balance — a docility which is the more wonderful, when we bear in mind that one of the strongest instincts which the elephant possesses, is that which impels him to experiment upon the stability of every surface which he is required to cross, before he will trust his body to the

* See *Ælian de Animalibus*, lib. ii, cap. xi. Gesner's translation.

† *Plinii Nat. Hist.* lib. viii, c. 2. It is difficult to understand how the elephants could carry a litter, without walking along two parallel ropes. The text of Pliny gives no elucidation of this point.

‡ *Epist.* 86.

§ *Suetonius in Galba*, cap. vi.

chance of breaking down the support which is prepared for him. The yielding rope must have called this instinct into action; although it should be observed, that the elephant will pass a bridge which vibrates, when nothing will induce him to set foot upon one whose tottering condition manifests its insecurity.* It may a little abate our surprise at the rope-dancing faculty of the elephant, when we learn that a horse has exhibited the same performance. At the solemnities which attended the wedding of Robert, brother to the king of France, in 1237, a horse was ridden along a rope.†

Amongst the curious feats of elephants, though less remarkable than those we have described, Arrian mentions, that he saw an elephant who, having a cymbal attached to each knee, and holding a third by his proboscis, beat a measure with astonishing exactness; and that other elephants danced in a circle round him, without deviating in the least from the time which their companion indicated. Busbequius (or Busbec), who was ambassador from the Emperor of Germany, to Constantinople, in 1555, saw an elephant there not only dance with elegance and accuracy, but play with a ball with great skill, throwing it with his trunk, and catching it again, as easily as a man could with his hands. Of the reverence which elephants may be taught to pay to human beings, we have several remarkable instances. An elephant is recorded to have saluted Domitian: and Martial has alluded to the circumstance in a nauseously flattering epigram, which intimates that the creature paid this homage without any command; and that he instinctively felt the divinity, as the poet calls it, of this pampered tyrant. The elephant which Emanuel of Portugal presented to Leo X, went

* Williamson's Field Sports.

† Leibnitz *Accessiones Historiæ*; quoted in Beckmann, vol. iii.

upon his knees, with a profound inclination of his head, when he first saw the Pope.* The veneration of the elephant for persons in authority has descended to those of secondary dignity; for Cardan saw the one belonging to the Queen of Bohemia, which was also very sagacious in other respects, welcome an archbishop of Milan, upon his bended knees. Such homage as this, however agreeable it may be to human pride, is as worthless as that which Augustus received upon his triumphal entry into Rome, after the battle of Actium, when the parrots from the windows cried out ‘Honour and victory to Cæsar.’ The conqueror gave enormous prices for these sagacious birds; but one bird, unluckily forgetting his last lesson, repeated that which he had been taught when the success of Augustus over his great rival was not so sure — ‘Honour and victory to Antony the Emperor†’ — and then Augustus grew tired of his winged flatterers, as he called them, — perhaps without making the discovery that all flatterers are equally contemptible.

The exhibition of the elephant at the Adelphi Theatre, however it may have been exceeded by the feats of the elephants of antiquity, was exceedingly curious and instructive. The animal took part in the scene with almost undeviating precision; displayed no want of confidence or self-possession in the midst of lights, and music, and the shouts of the people; and made her parting salute with as much grace as if she had Emperors and Popes only to bow to. One of the most curious scenes in which she took a prominent part, was that in which she assisted the escape of the prince and his adherents from prison, by kneeling upon her hind legs, and thus forming an

* Osorius de Gestis Emanuelis Regis, — cited in Sallengre.

† Rudæus de Asse, cited in Le Gendre, *Trait de l'Opinion*, vol. ii.



Scene exhibited at the Adulphi Theatre.

inclined plane, upon which her friends might safely reach the ground.

It has been stated to us that this elephant, when first brought out upon the stage of the Adelphi, would not be led to any particular point, till she had carefully tried the strength of the boards upon which she trod, thrusting her trunk upon every suspicious spot, and slowly and hesitatingly placing her feet in advance, before she moved her body forward. A remarkable example of this instinct is mentioned by a writer who had opportunities of observing the elephants of India: — ‘An elephant belonging to Mr Boddam, of the Bengal civil service at Gyah, used every day to pass over a small bridge, leading from his master’s house into the town of Gyah. He one day refused to go over it, and it was with great difficulty, by goring him most cruelly with the *hawkuss* (an iron instrument), that the *mohout* (driver) could get him to venture on the bridge, the strength of which he first tried with his trunk, showing clearly that he suspected that it was not sufficiently strong. At last he went on, and before he could get over, the bridge gave way, and they were precipitated into the ditch, which killed the driver, and considerably injured the elephant.’*

This instinct which the elephant possesses of trying the strength of any construction, whether natural or artificial, which it is necessary for him to cross, is particularly worthy of observation. When the enormous weight of a full-grown elephant is considered, it must be obvious, that if the creature were rashly to place his body upon any frail support, his danger would be extreme. His caution, therefore, in avoiding such an evil is constantly exercised; and the powerful as well as delicate instrument of touch which he possesses enables him always to be convinced of his

* Johnson’s Indian Field Sports, p. 56.

security, without incurring any risk under ordinary circumstances. The elephant at the Adelphi retained this instinct in full force, however she might have been led away from her natural habits by the artificial restraints of her discipline; — and we, therefore, give full belief to the assertion. We are not quite so prepared to believe what we have also heard stated with regard to this animal, that, upon being satisfied of the strength of the stage, and finding herself in a theatre, she immediately, without any direction from her keeper, began to rehearse the scenes which she had previously performed at Paris. Pliny, however, tells us, that an elephant, having been punished for his inaptitude in executing some feat which he was required to learn, was observed at night endeavouring to practise what he had vainly attempted in the day; — and Plutarch confirms this, by mentioning an elephant who practised his theatrical attitudes, alone, by moonlight.

A very curious example of the teachableness of the elephant is presented in the instance of a female, about seven years old, which is now exhibited in Mr Cross's Menagerie. This animal was accustomed to perform some of the tricks usually taught to her species, such as kneeling down at the command of her keeper, ringing a bell, and blowing through her proboscis, as a mark of pleasure. The success of the elephant at the Adelphi Theatre was the cause of her being incited to higher performances. A proposal was made to Mr Cross, that she should be exhibited in a melo-drama at the Coburg Theatre; — and she was accordingly removed thither to be trained in her new vocation. She followed her keeper very readily through the streets; — but she became uneasy at her change of lodgings, and the man, to quiet her, was obliged to sleep in the stable in which she was placed. Her theatrical education

occupied only three weeks; and in that short period she became accustomed to glaring lights and sudden sounds — learnt to move with a measured pace to musical cadences — was taught to distinguish one actor from another, so as to place a crown, with true poetic justice, on the head of the lawful king — and feasted at her banquet with almost as much propriety as the elephants of Germanicus. It is satisfactory to know, that this rapid instruction was not accompanied with severity. The keeper of the docile animal pursued a system of unremitting kindness; and every new acquirement was impressed upon her by judicious rewards. This was the plan which was followed by the ancients in the education of their elephants. Those whose performances are described by *Ælian* were, according to this writer, brought under discipline by the greatest kindness, and by the indulgence of varieties of food which were grateful to their palates; — and thus, he says, whatever was ferocious in their nature was gradually expelled, and a perfect gentleness, and even a sort of humanity, was induced in them. *Ælian* argues from this, that the beast is of a generous and noble disposition. The same principle, we apprehend, may be applied to the education of nearly all quadrupeds. The horse is made vicious by a harsh driver, and the ass acquires his hereditary doggedness from constant ill-treatment. The elephant is certainly more easily trained than the horse or the ass; — but the application of severity to the less teachable animal is only an indication of the ill-temper and impatience of the trainer. One of the most pleasing exhibitions of animal sagacity is presented by the equestrian stud of Mr Ducrow. The superior docility of the horses of this extraordinary performer is produced by the most assiduous kindness, without the slightest mixture of severity.

The elephant of the Coburg Theatre has now re-

turned to her confinement at Mr Cross's Menagerie. She is remarkable for a constant practice of rolling her body, as if she were swayed by the motion of a ship; and it is stated that she acquired this habit upon her voyage from Calcutta. The keeper informed us, that while she was occupied by her instruction at the theatre, he scarcely ever observed this; but that she resumed the motion immediately after she was placed in her own cell. Almost every elephant, under confinement, has a peculiar movement, as if it were necessary to substitute some exercise for the unrestrained activity of a state of nature. Darwin considers that this species of restlessness, in animals generally, is occasioned by increase of stimulus, or by accumulation of sensorial power. 'Thus,' he says, 'when a squirrel is confined in a cage, he feels uneasiness from the accumulation of sensorial power in his muscles; which were before in continual violent exertion in his habits of life; and in this situation finds relief by perpetually jumping about his cage to expend a part of this accumulated sensorial power. For the same reason those children who are constrained to sit in some schools for hours together, are liable to acquire habits of moving some muscles of their faces, or hands, or feet, which are called tricks, to exhaust a part of the accumulated sensorial power.*' The elephant also finds it essential to employ some portion of that intelligence, which, in his condition of liberty, conduces to his support and his pleasure, in an ever active curiosity about little matters. He accommodates himself as well as he can to the narrow sphere of action in which he is placed. Thus, an elephant in a cell is always feeling about with his trunk—inserts the finger, as it has been expressly called, into the minutest crack—and examines every new object

* Zoonomia, vol. iv, p. 12, 8vo.

which is presented to him with the most eager curiosity. In this way we observed an elephant, exhibited in Atkins's travelling menagerie, spend more than an hour in unscrewing a nut which had been newly placed on the upper part of the cage; and M. Houel, a French artist, who published an elaborate account of the two elephants which the victorious armies of the French republic brought to Paris from Holland, states that, having, during the daily walk of the elephants, drawn some perpendicular and horizontal lines upon the wall of their cell, he was astonished to observe them, upon their return, examine these marks with the greatest attention, whilst the female, at length, deliberately proceeded to rub them out with her trunk.* M. Houel thinks that the necessity for some occupation is most felt by the female.

The elephant is, to a surprising extent, the creature of habit. We have mentioned that Mr Cross's elephant required her keeper to sleep in the stable where she was newly placed. Upon her return to her old cell, the keeper left her at night as he had been previously accustomed to do; but the animal would not go to rest, as she usually did. She persevered in remaining upon her legs for four or five nights; till the keeper conjectured that she was unhappy without him. A hammock was, therefore, slung in the cell for the keeper;—and the poor beast, immediately that he took his place near her, lay down with evident satisfaction.

Elephants are not only annoyed by any deviation from their accustomed habits, but they sometimes resent any constrained departure from the regularity of their course, in an odd way. It is stated, amongst

* *Histoire Naturelle des deux Eléphants*, p. 89. Paris, 1803. 4to.

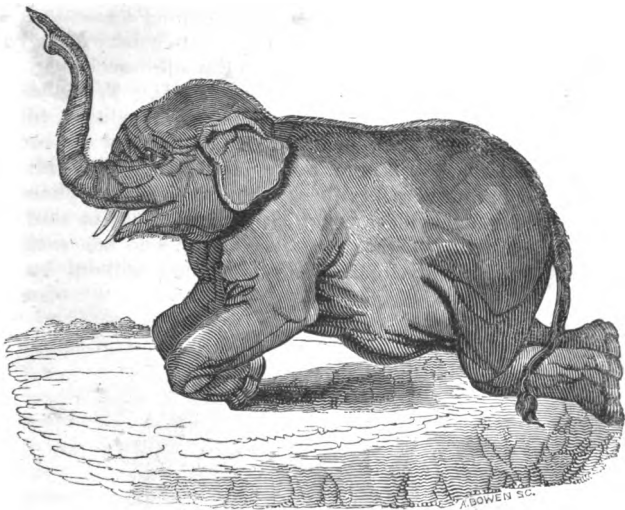
the traditionary stories of elephant sagacity, that Pidcock, to whom the Exeter Change Menagerie formerly belonged, had, for some years, a custom of treating himself and his elephant in the evening with a glass of spirits, for which the animal regularly looked. Pidcock invariably gave the elephant the first glass out of the bottle, till one night he exclaimed, ' You have been served first long enough, and its my turn now.' The proud beast was offended—refused the glass when he was denied his precedence—and never more would join his master in his revelries. An affecting instance of the force of habitual obedience was presented by Chuni, the famous elephant who was shot at Exeter Change. In the greatest access of his fury, when bullets were striking him from every side, he obeyed the voice of his keeper, who ordered him to kneel, in the belief that he might be more easily shot in that position.* In the same way an elephant who became furious at Geneva, in 1820, under circumstances similar to those which led to the death of Chuni, when running wildly about the town, attacking every one who came in his way, yielded the most prompt obedience to the female whose property he was, and suffered himself to be led by her to a place of safety, where he was killed.

The female elephant at Mr Cross's Menagerie is called Lutchmé. This was the name of an elephant belonging to Captain Williamson, the writer on Oriental sports. The practice of giving names to elephants is of great antiquity, and is almost universal in the east. Thus, the favourite elephant of Porus was called Nikon,—and that of Antiochus, Ajax;—Abulabaz was the name of that which Haroun Alraschid sent to Charlemagne, and Hanno of that

* A very interesting account of the death of this elephant is given by Mr Hone, in his ' Every-Day Book,' vol. ii, p. 322.

which Emanuel of Portugal presented to Leo X. It was said of the Mogul emperor, Akbar, that he knew all the names of his many thousand elephants.

The following is a portrait of Mr Cross's elephant, when kneeling.



Female Elephant in Mr Cross's Menagerie.

Whatever interest we may feel in the sagacity which is ordinarily displayed by the elephants of our common English menageries, the wretched state of confinement in which so large an animal is kept prevents us forming any adequate notions of many of its peculiarities. For this reason the recent exhibition of the elephant in a theatre has contri-

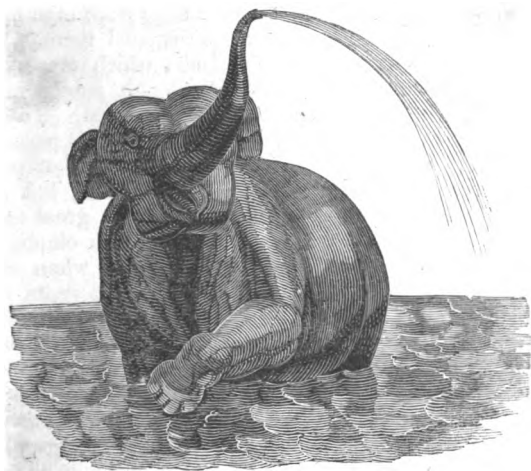
buted very much to remove some of the popular prejudices concerning the quadruped, and to induce correct ideas of its peculiar movements. We cannot, indeed, upon a stage, see the animal bound about as in a state of nature—roll with delight in the mud, as Bruce has described it doing, to produce a crust upon its body which should be impervious to its tormentors the flies—collect water in its trunk, to spirt over its parched skin—and browse upon the tall branches of trees which it reaches with its proboscis. We shall not see these peculiarities of its native condition, till we have a proper receptacle for the elephant in our national menagerie, the Zoological Gardens. Without imputing blame to those who exhibit the elephant in this country, there is certainly great cruelty in shutting up in a miserable cage a creature who has such delight in liberty, and who is so obedient without be-



Head of a Female Elephant in Atkins's Menagerie.

ing restrained. The fine female elephant at Atkins's menagerie evidently suffers greatly under such severe durance. She has occasionally injured her keeper by pressing him against the wall of her cell, having scarcely room to turn round ; and very recently, provoked perhaps by confinement, she deliberately attacked her proprietor, who went into the cage, and wounded him severely. This elephant is ordinarily very tractable; and her countenance, of which we give a portrait, appears to indicate great mildness and intelligence.

The elephants of the Jardin des Plantes, at Paris, have, by comparison with the elephants of our close menageries, a life of much happiness. Their cells are spacious ; they are let out, at particular periods, to



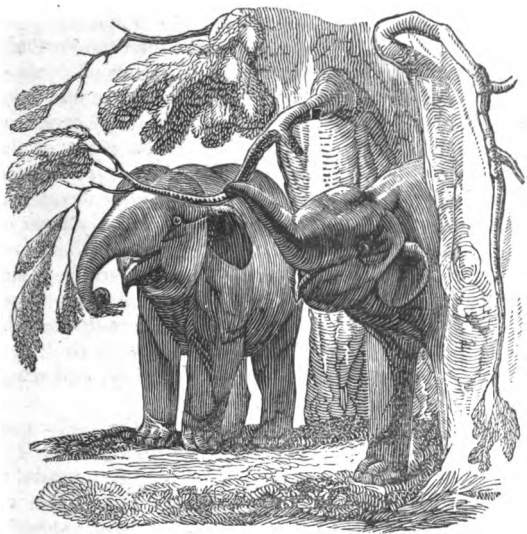
Elephant of the Jardin des Plantes.

range about a large enclosure ; and they have a bath which they enjoy with infinite delight in warm weather. We saw, in 1825, the large male (who is since dead) up to his middle in a pool, in a hot day in August, spouting the water from his trunk with scarcely less joy than he would feel in his native woods. When his bath was finished, he would stand quietly for a little time in the sun — and then, gathering a quantity of dust in his trunk, blow it over his back till the crevices in his skin were sufficiently covered to be protected against the flies.

The close confinement of the elephant has doubtless a tendency to aggravate those periodical fits of rage to which the males are subject ; and, moreover, these fits are much more fearful when the animal is pent up in a narrow cage. The pieces of oak which formed the bars of Chuni's cage were eight or ten inches square, — and yet he snapped them like matches. The elephants of India which are employed in domestic purposes, although subject to these fits, are rarely obliged to be destroyed. They are confined in a secure place till the effect is passed off. Again, elephants in the miserable cages of our menageries are liable not only to accidents, but to diseases which prevent them reaching the great age which is peculiar to this quadruped. The elephant of Louis XIV, which died at Versailles when he was seventeen years old, for the last five years of his life was obliged to be lifted up by a machine, when he lay down, which he rarely did. This was evidently an effect of confinement, which had so weakened the muscular power of his body as to give some probability to the old fable that the elephant, in a state of nature, always sleeps in a standing position against a tree.* Another elephant, which was

* Perrault, *Mémoires*, tom. ii, p. 507.

kept at Versailles in the time of Louis XV, was so impatient of confinement, that he one night broke his chains, tore down the door of his cage, and rushed to a muddy pond in the park, where he was suffocated.* The elephants which were taken by the French from Holland had been accustomed, when quite young, to wander unrestrained in the park of the Petit Loo, browsing on the trees, and assisting each other to reach the branches.† When they were placed in cages for



Young Elephants browsing.

removal, being separated, the male soon shivered his prison to pieces, and their departure was delayed

* Houel, *Histoire des deux Eléphants*, p. 15.

† The cut is from M. Houel's design.

for some weeks. Their travelling cages being at length made strong enough, they were indeed moved without serious injury ; but the female broke one of her tusks in terror when she first saw the daylight, after a long continuance in a state of darkness. Upon the arrival of these elephants at Paris they were confined for some time in the usual absurd manner ; but at length a proper inclosure was attached to their cages, and they were often permitted even a wider range, so that they could be viewed under circumstances something approaching to a state of nature. M. Houel says — ‘ I have occasionally seen the two elephants led into the garden of the Museum of Natural History, on fine days when the temperature was mild. The sight of the sun appeared to be to these creatures a source of the liveliest joy. The presence of this luminary refreshed them, as it refreshes every thing in nature ; and their happiness was not concentrated in their thoughts, but manifested itself in every form of satisfaction. They bounded round each other, in a race of astonishing swiftness — they leaped from side to side, forward, backward ; — they galloped — they trotted. All their movements were characterised by a sort of mad delight, — the expression of their love for liberty, which is innate in every being, and which the habit of slavery could not stifle.’*

The quantity of food required for the daily consumption of a full-grown elephant is enormous. The elephant of Louis XIV, had daily eighty pounds of bread, twelve pints of wine, and a large quantity of vegetable soup, with bread and rice ; this was exclusive of grass, and what he got from visitors. Desmarest states, that the domesticated elephant requires daily about two hundred pounds of aliment of all sorts.

* Histoire, &c, p. 56.

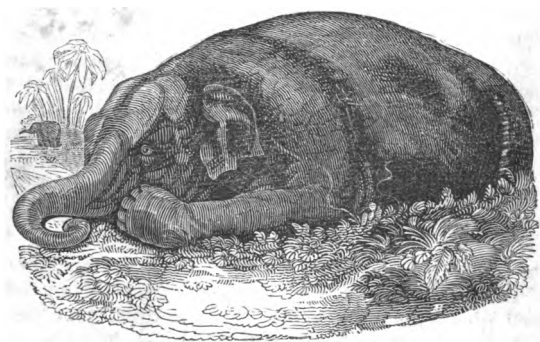
It is recorded by one of the Roman historians, that the elephants which were taken from the Carthaginians, by Metellus, were so expensive to keep, that they were put to death in the Circus.* The elephant, if not well-fed, and with regularity, soon becomes a miserable object.† Bishop Heber witnessed the wretched condition of an old elephant that had been cheated of his proper allowance. 'Adjoining the pool we saw a crowd of people assembled round a fallen elephant; apprehending that it was one of our own, I urged my horse to the spot. On asking, however, whose it was, a bystander said it belonged to 'the asylum of the world,' and had fallen down from weakness, which was not surprising, since, instead of an allowance of twenty-five rupees a month, necessary for the keep of an elephant, I was told that these poor creatures, all but those in the immediate stables of his majesty, had, for some time back, owing to the dilapidated state of the finances, and the roguery of the commissariat, received only five. They had now given the wretched animal a cordial, and were endeavouring to raise it on its legs, but in vain. It groaned pitifully, but lay quite helpless, and was, in fact, a mountain of skin and bone.‡ This happened in the Nawâb Vizier's country, where elephants, not many years ago, were maintained in great numbers, from those resources which only Asiatic despotism could command. The cost of a stud of elephants, such as the Mogul princes kept up, must have been enormous. To each of the hundred and one elephants that were set apart for the Emperor Akbar's own riding, the daily allowance of food was two hundred pounds in weight. Most

* See Pliny, liv. viii, c. 7. † Williamson's Oriental Field Sports.

‡ Journal, vol. ii, p. 46.

of them, in addition, had ten pounds of sugar, besides rice, pepper, and milk. In the sugar-cane season, each elephant had daily three hundred canes.* The elephants of our English menageries are principally fed upon hay and carrots.

* Ayeen Akbery.



Elephant lying down.

CHAPTER II.

The Structure of the Elephant, exhibited in connexion with his Natural Habits.

IT has been well observed by a French naturalist, in speaking of the actions of animals, that those things which they learn through their intercourse with man are liable to change, and in reality do change, whenever there is any relaxation of the care with which the animals are taught: but that, on the contrary, those habits which depend only upon the laws of nature, and which are acquired without education, by the force of instinct, are as invariable as nature herself.* The elephants of the menageries, as we have described them in the previous chapter, may perform less astonishing tricks than the elephants of the Romans; and the elephants that carry the baggage and lift the guns of our troops in India, may be less tractable in war than those of Kublai Khan. Elephants were not intended by Nature to dance upon ropes, or to carry towers full of armed warriors upon their backs. If the men of other times, subduing this mighty beast to their use, taught him to turn aside from his natural habits to apply his sagacity and his strength to such purposes, and if the men of the present day have ceased thus to employ him, we must not conclude that his strength or his intelligence are, therefore, diminished. What he did in a state of nature two thousand years ago, he does now. His natural habits, as well as those of every other living thing, are derived from his or-

* Astruc, *Histoire Naturelle du Languedoc*.

ganization; his structure is the best adapted to the necessities of his existence; and as the structure is invariably the same in the same species, we may conclude that the natural habits are equally invariable.

It is this consideration that will at once show us the absurdity of imagining that the natural habits of animals are changed by accident or time. Buffon says, 'the elephant, like the beaver, loves the society of its species. Elephants understand each other, assemble, disperse, and act in concert. If they do not build, and do not labour in common, the reason may be ascribed to the want of space and tranquillity; for men were in old times greatly multiplied where the elephant most abounded.' The reason which Buffon gives for the interruption of the labours of the elephant by man is certainly incorrect; for this quadruped lives, and has always lived, in particular districts, without the interference of the human race. But with or without man he would have remained the same as he is now. He does not build, because he is not organised for building; the beaver is an architect, because the faculty of building is necessary for his comfortable existence, and the art is suggested by his organization. But the beaver, like the sparrow and the wasp, builds in one way, and has always so built. Instinct undergoes no change from experience; and therefore birds and insects now build as they built in the time of Aristotle.*

The comparison of habits with structure has given to Natural History, in our own times, a truth and precision which it lamentably wanted half a century ago. Natural History was, for many ages, little more than a crude mass of isolated statements, a great number of which were false and contradictory. Alexander the Great, who, amidst his extravagant plans of conquest, had an ardent desire for the ad-

* See Bonnet, *Contemplation de la Nature*, part xii.

vancement of knowledge, commanded all the huntsmen, fowlers, and fishermen of Asia and Greece, to render an account of their discoveries to Aristotle.* From this cause, probably, the Natural History of that extraordinary philosopher is, in many particulars, more correct than that of the eloquent Buffon, who was always straining his facts to support a theory. But still the truths of the elder naturalists are mixed with a vast quantity of fable — a necessary result of their own limited opportunities of observation, and their reliance upon information which too often proceeded from ignorant and careless narrators. The huntsmen, and fowlers, and fishermen of antiquity, who communicated facts to Aristotle and other interpreters of nature, were succeeded by the travellers of modern times; and these, like their predecessors, went on, for several generations, repeating the old fables which found a place in every system of Natural History, and rarely attempting to examine the habits of animals with their own eyes. Indeed, the difficulty of eradicating a false statement in Natural History is quite remarkable; and ought to operate as a striking example of the mischief of repeating assertions which are unsupported by distinct evidence. Thus, the greater number of writers, scientific as well as popular, assert that the young elephant sucks the mother with its trunk; arguing from the difficulty which the little creature would have in using its mouth, and passing over the precise statements of those who have actually witnessed the operation, performed in the very way which these parties describe as impossible. Again, many persons, even in our day, maintain that the elephant will not breed in captivity; although Mr Corse (now Mr Corse Scott), formerly superintendant to the East India Company's elephants at Tiperah, a province of Bengal, has dis-

* Plinii Hist. Nat., lib. viii, cap. 16.

proved this notion, from his own experience; and has thus given the fullest confirmation of the statements of Ælian, and other ancient writers, that they were bred at Rome. A great deal of the popular history of the elephant, in particular, has, through such a perseverance in error, become matter of romance. We have, for this reason, assigned especial importance to the collection of the facts of his natural condition, and of his employment by mankind; and we are quite sure, whatever may be the imperfections of our narrative, it will lose none of its interest by having all its statements supported by adequate authority.

The living species of elephants are two, the Indian and the African. We shall subsequently speak of their specific distinctions, which consist in the shape of the head, the size of the ears, and the formation of the teeth. The Indian elephant is found in all the southern countries of Asia: that is, in Cochin-China; in the kingdoms of Siam, Pegu, and Ava; in Hindostan, and the adjacent islands, particularly in Ceylon. The African elephant inhabits all the countries of the western side of Africa, from the Niger and the Senegal, to the Cape of Good Hope. Both species live in large herds, reigning the almost exclusive possessors of immense forests and marshy plains covered with long grass; repelling the attacks of every other quadruped by their great strength, their swiftness, and their union; and diminished in their numbers, or forced into captivity, by one vanquisher only, man, — who has subdued their force and intelligence to his domestic uses, and for many ages has found an article of luxury in the solid substance which forms their principal defence in their native woods.

When we consider the slowness with which elephants are produced, on the one hand, and the enormous quantity of food which they require for their support, on the other, the immense numbers

which still range over the uncultivated portions of India and Africa offer one of the many wonderful examples of the care with which the maintenance of every living thing is provided for. Destroying as much vegetable food as he consumes, by the broad feet which sustain his prodigious weight, and unfitted to endure any long privations, as the camel does, the elephant is the natural inhabitant of those regions where there is a wild luxuriousness of vegetation, but where man has not yet settled to make the earth bear even more abundantly what is peculiarly adapted to his own sustenance. The elephant and man cannot be inhabitants of the same region, at one and the same time, without a limit being placed to the multiplication of the mightier, but the less sagacious animal: and thus, the crafty Indian entraps him into captivity, and the wily Caffre marks him down with his gun, destroying some hundreds in the course of a life devoted to the dangerous task of hunting him for his ivory. Civilization, partial as it is in Africa, is driving the elephants farther and farther from the haunts of men; but they still are seen, by travellers, in very large numbers. In his journey from Mourzuk to Kouka, in Bornou, Major Denham came upon elephants' footmarks, of an immense size and only a few hours old. 'Whole trees were broken down where they had fed; and where they had reposed their ponderous bodies, young trees, shrubs, and underwood had been crushed beneath their weight.'* Four days after, he saw the herd in grounds annually overflowed by the waters of a lake, where the coarse grass is twice the height of a man. 'They seemed to cover the face of the country.' Mr Rose, an officer of engineers, who recently accompanied some elephant hunters in Southern Africa, was told by an experienced hunter, that he had seen as many as three

* Discoveries in Northern and Central Africa, p. 50.

thousand in a troop, on the bank of the Fish River ; and that he and his Hottentots had killed eight hundred in twenty months. Mr Rose was satisfied of their great numbers, from the paths which marked their progress, in all directions, through the country 'which they have possessed for ages,' where all 'the roads are the work of the elephant.'* Mr Pringle, to whose communications we are already so much indebted in the first volume of this work, has favoured us with a description of a herd of wild elephants, presenting a vivid picture of a scene which must be one of the most remarkable that can be presented to the eye in the deep solitudes of a tropical wilderness: —

'A herd of elephants, browsing in majestic tranquillity amidst the wild magnificence of an African landscape, is a very noble sight, and one of which I shall never forget the impression. It is difficult to convey in a brief notice an adequate idea of such a scene ; but if the reader will, in imagination, accompany me on a short excursion into the wilderness, I shall endeavour to show him at least what the South Africans call the *spoor* — the *vestigia* of a troop of elephants.

'During my residence on the eastern frontier of the Cape Colony, I accompanied a party of English officers on a little exploratory excursion, into a tract of country then termed the Neutral Territory, immediately adjoining to the location of the Scottish settlers at Bavian's River. This territory, which comprises an irregular area of about 2,000,000 of acres, had remained for several years entirely without inhabitants ; for its native possessors, the Caffers and Ghonaquas, had been expelled from it in 1819 by the colonial forces, and no other permanent inhabitants had yet been allowed to occupy it. The colonists

* Four Years in Southern Africa.

were even forbidden to hunt in it under severe penalties, and, in consequence of this, the wild animals had resorted thither in considerable numbers.

‘The upper part of this extensive tract, into which we now penetrated, is an exceedingly wild and bewildering region, broken into innumerable ravines, encumbered with rocks, precipices, and impenetrable woods and jungles, and surrounded on almost every side by lofty and sterile mountains. During our first day’s journey, although we saw many herds of large game, such as quaghas, gnoos, hartebeests, koodoos, with a variety of the smaller antelopes, there was no appearance of elephants; but, in the course of the second day, as we pursued our route down the valley of the Koonap river, we became aware that a numerous troop of these gigantic animals had recently preceded us. Foot-prints of all dimensions, from eight to fifteen inches in diameter, were everywhere visible; and in the swampy spots on the banks of the river, it was evident that some of them had been luxuriously enjoying themselves by rolling their unwieldy bulks in the ooze and mud. But it was in the groves and jungles that they had left the most striking proofs of their recent presence and peculiar habits. In many places paths had been trodden through the midst of dense thorny forests, otherwise impenetrable. They appeared to have opened these paths with great judgment, always taking the best and shortest cut to the next open savanna, or ford of the river; and in this way they were of the greatest use to us by pioneering our route through a most difficult and intricate country, never yet traversed by a wheel-carriage, and great part of it, indeed, inaccessible even on horseback, except for the aid of these powerful and sagacious animals. In such places (as the Hottentots assured me) the great bull elephants always march in the van, bursting through

the jungle, as a bullock would through a field of hops, treading down the thorny brushwood, and breaking off with his proboscis the larger branches that obstruct his passage; the females and younger part of the herd follow in his wake in single file: and in this manner a path is cleared through the densest woods and forests, such as it would take the pioneers of an army no small labour to accomplish.

‘Among the groves of mimosa trees, which were thinly sprinkled over the grassy meadows along the river margins, the traces of the elephants were not less apparent. Immense numbers of these trees had been torn out of the ground, and placed in an inverted position, in order to enable the animals to browse at their ease on the soft and juicy roots, which form a favourite part of their food. I observed that, in numerous instances, when the trees were of considerable size, the elephant had employed one of his tusks, exactly as we should use a crow-bar—thrusting it under the roots to loosen their hold of the earth, before he could tear them up with his proboscis. Many of the larger mimosas had resisted all these efforts; and, indeed, it is only after heavy rains, when the soil is soft and loose, that they can successfully attempt this operation.

‘While we were admiring these and other indications of the elephant’s strength and sagacity, we suddenly found ourselves, on issuing from a woody defile, through one of the wild paths I have mentioned, in the midst of a numerous herd of these animals. None of them, however, were very close upon us; but they were seen scattered in little clumps over the bottom and sides of a valley two or three miles in length; some browsing on the succulent *spekboom* (*Postulacaria afra*) which clothed the skirts of the hills on either side; others at work among the mimosa trees sprinkled over the low and grassy savanna.

As we proceeded cautiously onward, and some of these parties came more distinctly into view (consisting, apparently, in many instances, of separate families, the male, the female, and the young of different sizes), the gigantic magnitude of the leaders became more and more striking. The calm and stately tranquillity of their deportment, too, was remarkable. Though we were a band of about a dozen horsemen, including our Hottentot attendants, they seemed either not to observe, or altogether to disregard, our march down the valley.'

The neutral territory, in which Mr Pringle saw the herd which afforded him the occasion for this description, had been without inhabitants for several years; and the elephants and other wild animals had resumed the dominion which the great tyrant, man, had quitted. It is the same in India. Sir Stamford Raffles, in his journey through the Southern Presidencies to Passumah, first fell in with numerous tracks of elephants, where a village had formerly stood. He passed over much ground which at one period had been in cultivation, but which had long remained in a state of nature. At another place, which had also been the site of a village, but where no place of human dwelling or cultivation was then to be found, he slept in a shed which his attendants erected, near a broad river. 'During the night,' says Sir Stamford Raffles, 'we were awakened by the approach of a party of elephants, who seemed anxious to inquire our business within their domains.'* A contest is incessantly going on, between man and the inferior animals, for the possession of the earth. Where civilization is established, the dominion is undisputed; — but where man proceeds in his career of improvement by slow and solitary steps, he has to fight his way against those

* Life and Correspondence, p. 315

quadrupeds who resist his power, till they find their resistance unavailing. If he recede, the lion and the elephant return to their ancient domain. Whatever man holds in this world must be held by an unceasing exercise of his energy. If he neglect to maintain his ground by the same activity of intellect by which he has acquired it, an enemy starts up on every side. Even the commonest processes of nature require to be watched. They are either allies or foes. The sun, and the rain, and the dew, and the wind, are as much annoyances as assistants, unless they co-operate with an intelligence which directs them to good. If the lion break not into his fold, and the elephant tread not down his plantations, the minutest insects are at hand to injure his flocks and destroy his harvests, when the universal conqueror indolently ceases to defend his empire.

The elephant is, beyond comparison with others, the largest of all land animals. An old anatomist has properly described him as ‘animal vastissimum;’ — and we may admit this description without adopting the exaggerated accounts of his height which have been so commonly circulated. Mr Corse, who, perhaps, saw more Indian elephants than any other European, never heard of more than one elephant whose height much exceeded ten feet. This was a male belonging to the late Vizier of Oude. His dimensions, as accurately measured, were as follow: —

	ft.	in.
From foot to foot, over the shoulder	22	10 1-2
From the top of the shoulder, perpendicular height	10	6
From the top of the head, when set up	12	2
From the front of the face to the insertion of the tail	15	11

The East India Company’s standard, for serviceable elephants, is seven feet and upwards, measured at the shoulder, in the same manner that horses are measured. At the middle of the back, which is curved, they are several inches higher. The height

of a living elephant is exceedingly deceptive, even to those who are most accustomed to the animal. Mr Corse measured a celebrated elephant of the Nabob of Dacca, which was generally stated to be fourteen feet high, and which he considered to be twelve; — it was found not to exceed ten feet. The elephants of Hindostan are, however, the smallest of the Asiatic species. Those from Pegu and Ava are much larger; and the skeleton of the elephant at the Museum at Petersburg, which was sent to the Czar Peter by the King of Persia, measures sixteen feet and a half in height. Still, it is probable that few elephants of more than nine feet in height have been brought to Europe. Neither the male nor female which the French took from Holland were eight feet in height. The elephant of Hindostan has certainly not degenerated in size for several centuries; for the Emperor Baber (a contemporary of our Henry VII,) observes, ‘they say that in some islands the elephant grows to the height of ten gez, (about twenty feet). I have never, in these countries, seen one above four or five gez’* (eight or ten feet). That the Hindoos had a tolerable definite notion of the medium height of an elephant, as we have of that of a cow or a horse, may be collected from another passage in the same amusing book, where the writer, describing a cavity in a rock, says, ‘it was as high as an elephant.’ The African species is generally larger than the Indian. Mr Pringle informs us, that he met with an enormous bull elephant (the Hottentots called him ‘a big terrible fellow, plenty, plenty big,’) which two engineer officers agreed was fourteen feet high. Major Denham, on his expedition to the Tchad, fell in with elephants which he guessed to be sixteen feet in height; — but one which was killed in his presence, and which he describes as an immense fellow, mea-

* Memoirs of Baber, p. 316.

sured nine feet six inches from the foot to the hip-bone, and three feet from the hip-bone to the back, making a height of twelve feet six inches. An elephant even of eight feet is, indeed, an enormous creature; and it is difficult to form an adequate idea of his bulk and stature from any description. In a small cell, also, his size cannot be correctly appreciated. According to the principles of perspective, a large object is not properly seen, unless we are removed to about three times the distance of its height and size. In a favourable situation, such as a large inclosure, or theatre, where the proportions of the animal are well displayed, and he is seen in action, with man by his side, some notion may not only be formed of his vastness, but the mind may be incited to the contemplation of those arrangements of Providence, by which a creature of such prodigious bulk is enabled to provide his daily sustenance without difficulty in the natural state; and is endued with every requisite bodily activity and mental energy, for the enjoyment of existence in as great perfection of content as the squirrel which leaps from tree to tree, or the wild horse which gallops over boundless plains in search of the greenest pastures.

It seems agreed that a large elephant weighs from six thousand to seven thousand pounds. Of this weight the carcase is about four-fifths. To support such a structure, the legs must be solid and compact — formed more with regard to strength than flexibility — fitted, in fact, to bear an enormous weight upon a level surface, without any violent strains produced by sudden bounds, or by the necessity of ascending or descending great elevations. That the elephant was designed for this equability of motion is evident from its want of the elastic ligament which, in almost all quadrupeds, connects the head of the thigh-bone with the pelvis, and which gives the hind

legs power to resist the strain which is produced by moving upon irregular surfaces.* The elephant is indeed found in the neighbourhood of mountainous ranges; and, under the command of man, certainly ascends rocky passes, bearing a considerable weight: but that such a service is a violation of his natural habits is evident from the fact that in these situations he is liable to fall backward, not having that power of resistance in his hind-legs which enables many other quadrupeds to move in safety over craggy ground. Bernier, in his amusing 'Travels in the Mogul Empire,' indeed, states that, 'though heavy and unwieldy, these animals are yet sure-footed, feeling their way when the road is difficult and dangerous, and assuring themselves of the firm hold of one foot before they move another.'† But this very caution indicates that the elephant is placed in an unnatural situation when he is required to ascend craggy steeps, and that his great sagacity alone enables him to overcome the difficulty. Bernier himself describes a remarkable accident which he witnessed, proceeding from this mode of compelling the elephant to a labour for which he is unfitted by nature:—'The King (Aurengzebe) was ascending the Peer-Punchal mountains, and from which a distant view of the kingdom of Kashmire is first obtained. He was followed by a long line of elephants, upon which sat the ladies in mik-dembers and amaris.‡ The foremost, appalled, as is supposed, by the great length and acclivity of the path before him, stepped back upon the elephant that was moving in his track; who again pushed against the third elephant, the third against the fourth, and so on until fifteen of them, incapable of turning round or extricating them-

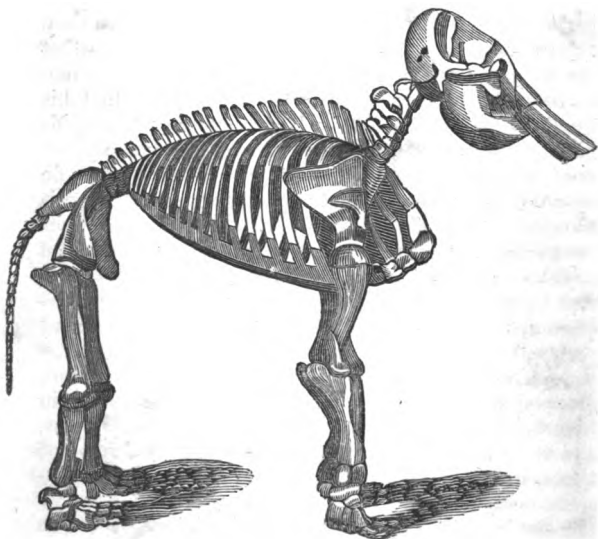
* See Home's Comparative Anatomy, vol. i, p. 95.

† Bernier's Travels, translated by Brock, vol. ii, p. 129.

‡ Seats, with canopies.

selves in a road so steep and narrow, fell down the precipice. Happily for the women, the place where they fell was of no great height; only three or four were killed; but there were no means of saving any of the elephants. Whenever these animals fall under the immense burthen usually placed upon their backs, they never rise again, even on a good road. Two days afterwards we passed that way, and I observed that some of the poor elephants still moved their trunks.*

The peculiarity of the progressive movement of the elephant is generally attributed to the weight of his body; and it is so different from the motion of other animals with which we are familiar, that we are in the

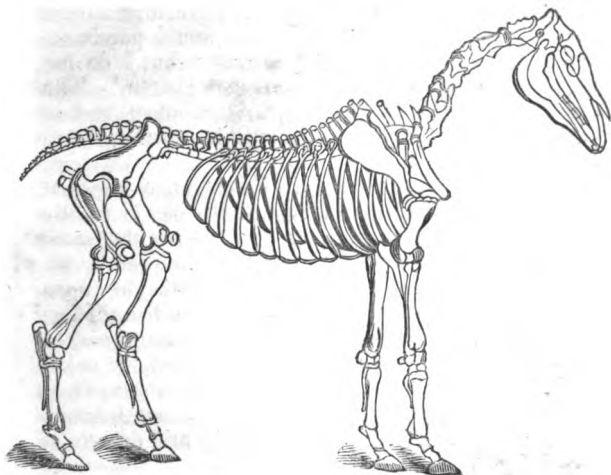


Skeleton of the Elephant shot at Exeter Change.

* *Bernier*, vol. ii, p. 149.

habit of hastily calling the conformation which produces it a deformity. We 'cannot allow that it is deformed, since those due proportions, laid down by the Author of Nature, are as well observed in this, as in any other animal; for nothing can be deformed but what swerves from a general rule.'* To illustrate these proportions, we have had a drawing made of the skeleton of the elephant which was shot at Exeter Change. This skeleton, which is admirably preserved, has been set up with great skill at the Museum of the London University.

To understand the progressive motion of the elephant, it will be desirable to compare the bones of his legs with those of the horse. For this object we add a representation of the skeleton of the latter. It will be obvious that, without reckoning the joint which



Skeleton of the Horse.

* Blair on the Elephant, Phil. Trans., vol. xxvii.

unites the hoof, the horse has three bones in the leg, —the elephant has two. For this reason the horse moves with an elastic pace, while the elephant has a grave and stiff progression;—and this want of elasticity renders it disagreeable to ride on him for any distance. It will be evident also, from an inspection of the two skeletons, why the horse, in kneeling, brings his hind-legs under his body, while those of the elephant go behind him, exactly in the same way as man kneels.

The legs of the elephant are supported upon broad hoofs, each terminated, in the adult animal, by five nails. The whole number of nails is seldom developed on the hind feet. The author of *Oriental Field Sports* says, 'To please a native, there should be five on each fore-foot, and four on each hind-foot: odd numbers are considered by them as unlucky.* I have known some with fifteen nails, which no native would purchase; and I have heard of one with twenty: but I do not recollect seeing one with more than eighteen.' The sole of an elephant's foot is nearly circular; and in one of eight feet high is about twelve inches in diameter.

Supported, then, upon these solid pillars, an elephant moves forward in search of food. His diet is wholly vegetable. The intestines are formed upon the same principle as in the horse. It has been observed by Sir Everard Home, that 'the colon in animals that live upon the same species of food is of a greater length in proportion to the scantiness of the supply. Among quadrupeds this may be illustrated by the length of the colon in the elephant being only twenty feet six inches, while in the dromedary it is forty-two. The first inhabits the fertile woods of Asia; the latter the arid deserts of

* This is almost the only exception to the universal faith in odd numbers.

Arabia.* Many other 'remarkable facts and striking analogies make it clear that some process goes on in the colon, from which a secondary supply of nourishment is produced.' The elephant, from the simple construction of his stomach and intestines, which requires frequent supplies—from the great quantity of food which he consumes for his ordinary support—from the waste which is necessarily produced by the weight and bulk of his body—and from the conformation by which he is fitted to move upon level ground,—is evidently the natural inhabitant of rich plains where vegetation attains its utmost luxuriance,—where the grass of the green savannas is ever kept fresh by perennial springs, and where the woods never cease to offer him their succulent shoots, which he delights to crop with his 'lithe proboscis.' A passage in Job which, principally upon the authority of Bochart, has been applied to the hippopotamus, is considered by many learned commentators as referring to the elephant. The following words certainly describe, with great accuracy, the natural haunts of the elephant: 'He lieth under the shady trees, in the covert of the reed, and fens. The shady trees cover him with their shadow; the willows of the brook compass him about.'† Thus, then, in

' the flowery lap
Of some irriguous valley,'

the elephant has to seek his daily food. But how is he to crop the store which nature has provided for him? The head of the horse is attached to his neck by a flexible series of vertebræ, which he can move at his pleasure; which he can arch in a graceful curve when he is proud and delighted, or throw upward with inflated nostrils when he is angry; by which he can graze without depressing his legs, or

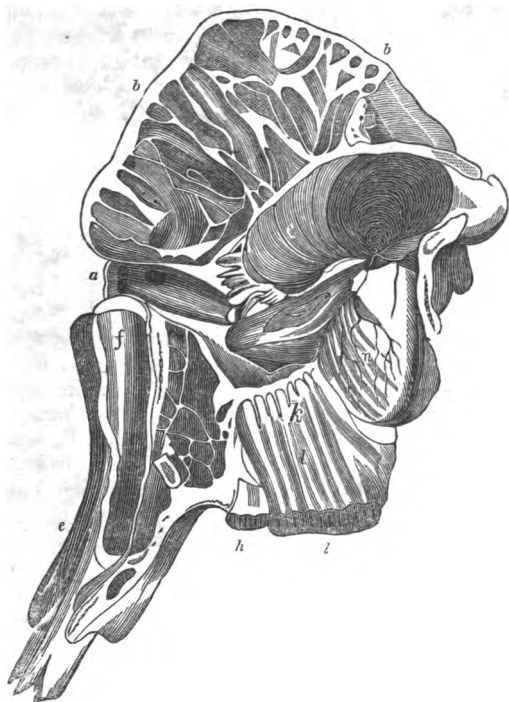
* Comparative Anatomy, vol. i, p. 470.

† Job, xl, 21, 22.

browse without elevating them. The head of the elephant is supported upon a very short, and, therefore, stiff series of vertebræ, which, by reason of their conformation, offer little more than a pivot upon which the animal can move his head, in a limited degree, from side to side, but which prevent him either elevating or depressing it, so as to procure his food. His enormous tusks, too, would, in some situations, prevent him conveniently reaching his sustenance, even if he could give his head the requisite movement. It is evident that the animal could not exist if nature had not provided him with an instrument of peculiar construction for supplying all his necessities.

Before we proceed to a description of the elephant's proboscis, it may be convenient to exhibit a section of the head, which offers some very remarkable peculiarities of conformation; as it evidently must do from having such singular attachments as the proboscis and the tusks.

The engraving represents the cranium of an Indian elephant, cut vertically. *a* is the opening of the nostrils; *b b*, the sinus which separates the two tables of the skull; *c*, the cavity of the brain. We shall explain other parts as we proceed to another division of the subject. The two tables of the skull are separated from each other by numerous bony processes, between which there is a vast number of cells, communicating with the throat by means of the eustachian tube, and filled with air, instead of the medullary substance which occupies the same space in other animals. This structure is peculiarly adapted to the purposes of increasing the surface for the attachment of those large muscles which belong to the lower jaw, proboscis, and neck of the elephant, and of augmenting the mechanical power of these muscles by removing their attachments to a greater distance from the centre of motion. These advantages



Section of the skull of the Elephant.

are attained by the cellular structure which we have just described, without augmenting the weight of the head ; a precaution especially necessary in the present instance, as the head is more heavy and massy in this than in any other animal. The air-cells of birds in general, and particularly those which pervade the skull of the ostrich, eagle, and owl, present examples of a similar formation, attended with the

same uses, viz, those of increasing the bulk and strength of the bone and diminishing its weight.

That this cavity of the skull is required to support the weight of the tusks, in particular, which act as great levers, is proved by the growth of the tusks corresponding with the enlargement of the cranium. The cavity may also serve as a protection to the brain ; for although the frontal bone is enormously thick, the animal is exposed to the most violent concussions in making his progress through the woods. Capt. Knox, in his account of Ceylon, says, 'it is their constant practice to shove down with their heads great trees, which they love to eat, when they be too high, and they cannot otherwise reach the boughs.' The compensating power of the great cavity of the skull for bearing the trunk and the tusks, is super-added to the ordinary means of suspensory ligaments, which are invariably found in quadrupeds which 'must needs hold their heads down in an inclining posture for a considerable time together, which would be very laborious and painful for the muscles.*' The opening in the skull called the 'great occipital foramen' is, in most quadrupeds, obliquely situated at the base of the skull, whereas in man it is nearly parallel with the horizon, and almost in the centre of the base of the skull. The great occipital foramen transmits the spinal marrow ; and the variations in the situation of this opening, in man and in animals of analogous structure, are important when viewed in connexion with the ordinary position of the body. In man, who is designed to hold his body erect, this opening is situated, as has been stated, nearly in the centre of the base of the skull ; the head, therefore, is supported nearly in a state of equilibrium on the spinal column. But in quadrupeds it is situated farther back in proportion as the face is elongated ; and instead of being nearly parallel to the horizon, it

forms a considerable angle with it. Hence the weight of the head in these animals is not sustained by the spine, but by a ligament of immense strength, which is either wanting in the human subject, or so inconsiderable as to have its existence disputed. This is the ligament of the nape, called by butchers the *pax-wax*; and the tough, strong, tendinous substance of which it is composed must be familiar to every one who has ever carved a neck of veal, and driven the knife against it. The head of an ox or a horse is a heavy weight acting at the end of a long lever, consequently with a great purchase; and from this force, thus advantageously applied, the bones of the neck would be in constant danger of dislocation, if they were not fortified by this strong tape. It is of immense size in the elephant, the vast weight of whose head, so much augmented by the enormous size of the tusks, sufficiently accounts for the increased magnitude of the suspensory ligament.

In the elephant, the facial line — that is, the vertical height of the skull, when compared with its horizontal length — is elevated by causes which have no connexion with the volume of the brain. From this circumstance, the elephant acquires an appearance of great sagacity, in the eyes even of common observers; and the ancients, who attached great importance to the form of the skull, attributed to him the most exalted intellectual endowments. In the same way, the owl, whose skull is elevated without a proportionate volume of brain, was the emblem of Wisdom among the Greeks. Modern naturalists appear to have gone to the other extreme; and, finding that the volume of the brain bears no relation to the external appearance of the elephant's skull, are disposed to deny the quadruped that sagacity which he really does possess.

The proboscis, or trunk, of the elephant has com-

manded the admiration of all who have witnessed its remarkable powers. The child and the philosopher, the refined Roman and the rude African, have equally been struck with its astonishing union of flexibility and strength. Cicero calls it, by a bold figure of speech, 'the elephant's hand;' — Lucretius, even more expressively, describes it by the word 'angui-manus,' the snake-hand; — and the Caffre, who has learnt nothing from the poets and orators, but is taught by nature alone, when he kills an elephant approaches the trunk with a superstitious awe, and, cutting it off, solemnly inters it, repeatedly exclaiming, 'The elephant is a great lord, and the trunk is his hand.'*

Before we proceed to a description of the uses of the trunk, we shall present, as clearly as we can, a view of its anatomical construction. The most precise details of this somewhat complex subject are those given by Cuvier, upon his dissection of two elephants.†

The author of the 'Anatomical account of the Elephant burnt at Dublin' was not allowed to dissect the trunk; but he says, 'where the fire had entered upon it, I could distinctly perceive three orders of fibres; one obliquely and spirally descending; another spirally but crosswise descending; the third were strait fibres.' He adds, 'several of the motions of his proboscis might be performed by the afore-mentioned three distinct series of muscular fibres; as its contraction, motion up or down, to the right or to the left; but by what means he was able at pleasure to shoot it out, from a foot, upon any sudden occasion, to five feet long, and that with extraordinary force, I cannot clearly perceive.' This is the problem which later anatomists have endeavoured to solve. The

* Rose's Southern Africa, p. 155.

† See *Leçons d'Anatomie Comparée*, tom. v.

trunk of the elephant has neither bone nor cartilage; and this constitutes the peculiarity of the mechanism, and involves the difficulty of exactly understanding its mode of operation; for 'we do not find any part without a bone except this, that is spontaneously protruded or prolonged, and so kept for some time.'*

The centre of the trunk is pierced throughout by two long canals which are the prolongations of the nostrils, and which are separated one from the other by a fatty substance about the third of an inch in thickness. In their whole course these channels are nearer the fore part of the trunk than the hind; and they preserve the same diameter almost throughout, till they come as high as the centre of the bone (*os intermaxillare*) in which the tusks are planted. At this point they suddenly turn, to approach the anterior surface of this bone, making a semi-circular curve. They are so compressed at this point, that unless there be a muscular action of the animal to dilate them, they operate as valves to prevent the ascent of any liquid to a higher point. Beyond this curve the canals again widen, and are curved back to approach the bony part of the nostril. The elephant, by this construction, can use the trunk as a reservoir for water, drawing the liquid up by suction to a certain point, beyond which it cannot pass. Cuvier considers that the trunk is not in itself an organ of smell, because the passage of any liquid through the canals would be incompatible with the delicacy of the membrane with which the nostrils in the head are lined. That membrane in man is sensibly affected with pain when any liquid enters the nose; and for the same reason, the sense of smell does not exist in the nostrils of those cetaceous animals that are constantly using

* Anatomical Account of the Elephant burnt, &c, p. 32.

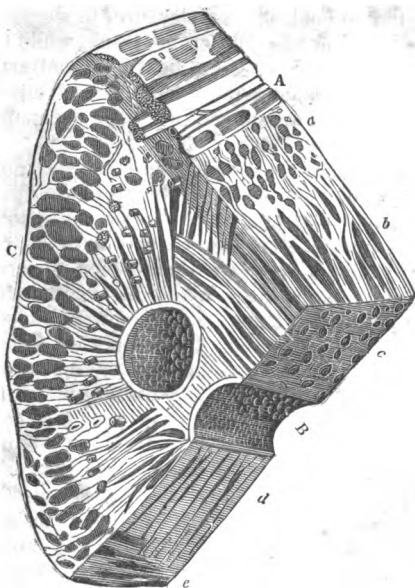
them as a passage for water, such as the whale, that makes them operate as a *jet-d'eau*. The sense of smell in the elephant, according to this great comparative anatomist, is confined to that part of the nostrils which is enclosed in the bones of the head.

The muscles of the trunk give to these two canals, which we have described, whatever inflexions the animal desires. Although these muscles are of an extraordinary number, they may be reduced to two principal classes — those which form the body or the interior part of the trunk, and those which encompass it. These latter are all, more or less, longitudinal — that is, they begin at the circumference of the base of the trunk, and are prolonged, more or less directly, towards its point. The other class of muscles are all transverse; and cut the axis of the trunk in various directions. It may assist this description, to append a copy of the sections of the trunk given by Cuvier.*

The *longitudinal* muscles are divided into anterior, posterior, and lateral. The first, which are affixed to the frontal bone, form an innumerable multitude of bundles, which all descend parallel to each other, and which are alternately contracted by tendinous intersections placed at short intervals. The second, originating in the intermaxillary bones, form two beds, divided one from the other into a great number of little bundles, whose direction is oblique. The lateral muscles form two pair, which are in some degree analogous to the muscle of the upper lip.

The use of these different longitudinal muscles is sufficiently evident. When they are moved altogether, the whole of the trunk is shortened. When those on one side only are moved, the trunk is bent on that side. But further, the division of these muscles, and the tendinous intersections of the anterior class,

* Anat. Comp. vol. v, pl. xxix.



Sections of the trunk of the Elephant.

A. Horizontal section, in which we see the small transverse muscles cut — some (*a*) across; others (*b*) in their length.

B. Vertical section in length, which has divided the nasal canal of the left side. The small transverse muscles which are seen in their length at *b*, are cut across at *c*; — other small muscles of the same kind are seen at their length at *d*. We see in their length at *c*, the antagonists of these transverse muscles — that is, the small longitudinal muscles.

C. Vertical section across. The small transverse muscles are seen in their length. They have various directions, not precisely radiating from the axis to the circumference, though their course is always across. They are all within the bed of the small longitudinal muscles which the section has divided across. The principal nerves and blood-vessels are also shown in this section; as also the two canals of the trunk.

enable the animal, at his pleasure, to shorten or to bend certain portions only of his trunk, while the rest remains prolonged, or even bent in a contrary direction. In consequence there is no sort of curve, says Cuvier, which the animal, by their means, cannot give to this instrument.

The small muscles which form the *interior* of the trunk, are all very distinct one from the other; and are all terminated by slender tendons, of which some cross the beds of the longitudinal muscles, to be attached to the exterior membrane which covers all the trunk, and others are planted in the membrane of the canals of the trunk. Perrault considered that all these radiated from the canals to the circumference, and that they diminished the diameter of the exterior envelope, without diminishing the diameter of the canal. This, however, is not the case: two sets of the muscles have this effect, but the other set certainly lessen the diameter of the canal, although their action can never shut the nostrils. All the transverse muscles are plunged in a cellular tissue, uniformly filled with fat. They are the antagonists of the longitudinal muscles. Cuvier adds that in their contraction they compel the trunk to *elongate* entirely, or in part; for their separations enable the animal to exercise them exactly within the limits which he desires. In the preceding paragraph, which is also translated from Cuvier, he assigns to the *longitudinal* muscles the power of *shortening* or of bending the trunk entirely, or in part, and he says that 'there is no sort of curve which the animal, by this means, cannot give to this instrument.' We must bear in mind the difference between contraction and elongation. When the longitudinal muscles are at rest, the trunk remains extended to its natural length: when they are in use it is bent or contracted. But there must be another power

to elongate the instrument with force and precision, after it is wholly or partially contracted. We must discover a mechanism, which, without bone, or cartilaginous rings, enables the animal 'at pleasure to shoot it out, from a foot, upon any sudden occasion, to five feet long, and that with extraordinary force.' This power must be found in the transverse muscles. The first object of the transverse muscles, or rather of two sets of them, is to keep the canals open, while the trunk is curved in various ways; for it is evident, if there were no such power, the passages would be shut, as is the case when we attempt to give contrary and sudden flexures to any elastic tube. Their second object is to elongate the trunk, and to assist in the direction of its movements. Being connected with the inner and outer membrane—that is, being attached to the membrane which covers the trunk, and that which covers the canal—they can readily diminish the space between the two substances, by their contraction. At the same time it is evident that, when the length of these muscles, from membrane to membrane, is diminished by their contraction, their thickness, which is in the direction of the length of the trunk, must be proportionally augmented; while, on the other hand, the thickness of the longitudinal muscles, which is in the direction of the width of the trunk, is proportionally diminished. From this formation it results that the trunk is more or less elongated, as the transverse muscles are more, and the longitudinal muscles less, employed. The limit to this extension of the trunk is, of course, the relaxation which the longitudinal muscles admit of, before they begin to re-act; and, just in the same manner, the resistance of the transverse ones is the limit to the shortening in length produced by the action of the longitudinal ones. The two classes of muscles are, therefore, called antagonist. The simplest popular view of the matter is to say that when the

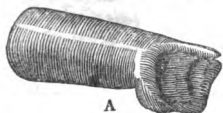
trunk is shortened it is thickened; and when it is lengthened it is rendered thin: and the only difference between these operations, and the production of the same changes in an elastic tube of Indian rubber, consists in the moving force of the trunk being in the organ itself, and distributed amongst the almost infinite number of muscles which that organ contains. In this way, the force is multiplied by the action of the will of the animal upon a vast number of points; and although the bellying of a few muscles may scarcely produce any visible motion, the repetition of the same action by many thousand muscles will effect that sudden extension which appeared so wonderful to the Dublin anatomist. The difficulty there may have been in comprehending the peculiarity of the action of the trunk is not surprising, when we consider that the instrument is altogether constructed upon principles different from common muscular action; and that the power of the mechanism is balanced by an almost infinite number of these small muscles, not more than the twelfth of an inch each in thickness.

The extent of the command which the animal possesses of his trunk, may be estimated from the fact, which Cuvier has ascertained, that the muscles of this organ which have the power of distinct action, are not far short of forty thousand. We need not therefore be surprised, if this instrument be strong enough to tear up a tree, and delicate enough to seize a pin. There is no animal structure in the least like the trunk of the elephant; but though the mechanism is unique, it is altogether complete for its purposes.

The trunk of the elephant is terminated, as is well known, by an extremely flexible prolongation of the muscles, destined to seize whatever the animal desires. This may be considered his finger. Opposed to this is a sort of thumb, which enables him to hold fast the object which he wishes to take up. Between the finger and thumb are the extremities of the nostrils.



There is some difference in the external appearance of the extremity of the trunk of the male and female elephant. The following cuts are from drawings made by Houel, from the male and female elephants of the Jardin des Plantes : —



A



B

Extremities of the proboscis. A, of the male ; B, of the female.

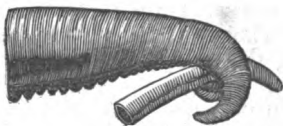
The trunk of the elephant may be first regarded as an instrument for collecting his food. He feeds upon all vegetable substances, from the leaves of trees and the coarsest grass, to the most farinaceous grain and the choicest fruit. Though his enormous bulk, requiring that his provender shall be in large quantity, renders a plentiful supply of the commoner vegetable productions necessary to him, yet his palate is pleased with delicacies. For this reason the strength and the minute touch of his proboscis are equally available in the collection of his daily supplies. If he meet with long herbage, he twists his trunk spirally round the roots and crops them off.



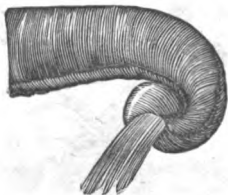
The bundle which he gathers is then held between what we have called the finger and thumb of the trunk, and is thus conveyed to the mouth : —



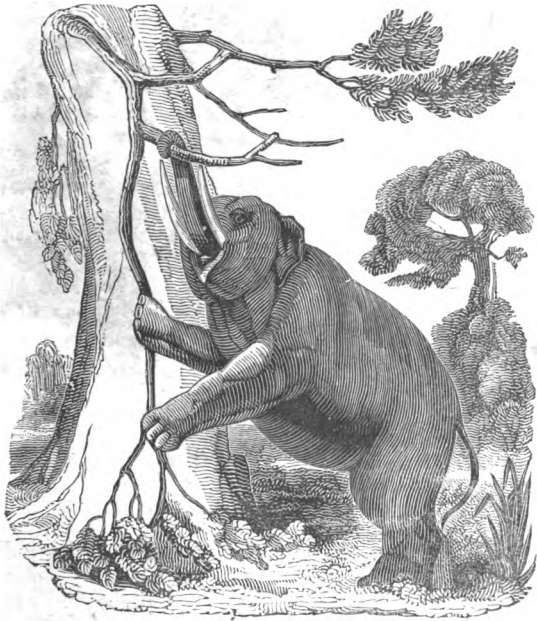
If the objects which he is collecting are too small to repay him for the trouble of carrying them to his mouth, he holds them one by one behind his thumb, till he has gathered enough for a load. Thus, if he finds a small root, he seldom eats it at once, but collects two or three, holding each in the following manner : —



When the object which he wants requires force for its removal, or is difficult to reach, he completely curls his trunk, thus —



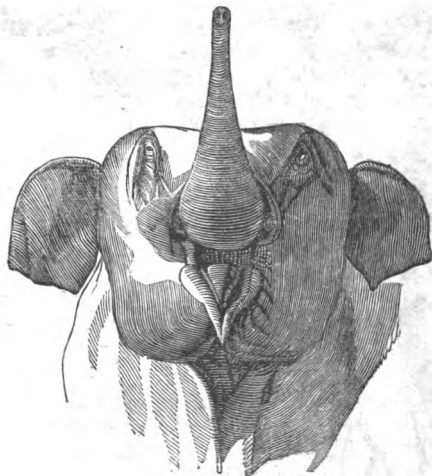
and in this way, elevating himself upon his hinder legs, he pulls down the tall branches of the trees of the forests which are his natural domain.*



The mode in which the elephant conveys his food to his mouth will be best understood by the following representation, which shows the animal reaching upward with his trunk. He has no power to apply his mouth to the food to be taken, (with the single exception of the mode in which the young elephant sucks); and therefore, whether he gather the supply

* The cut, representing this, is from M. Houel's work.

below or above his head, the substance gathered is introduced into his mouth by the inward flexure of the proboscis. The food then receives its due mastication.*



A country full of succulent plants, and plentifully supplied with showers and pools, is the natural abode of the elephant. Copious draughts of water are necessary to his existence. His trunk is the instrument by which he collects his liquid sustenance. By drawing in his breath he receives the necessary supply into the channels of his trunk, and, when he pleases, discharges it into his mouth. Perhaps a partial contraction of the diameter of the tubes of the trunk, which Cuvier has shown to be a necessary consequence of the formation of one set of the transverse

* See chap. iii.

muscles, may assist this operation : it is extremely difficult, if not impossible, otherwise to understand how the animal can eject the liquid from his mouth by his breath, while he is drinking at the same instant. It is an error of some writers who state, that the large cavity of the head is a reservoir for the liquid which the animal takes up in his trunk : — it is held in his trunk by the action of his breath, but no part can pass beyond the sudden curve of the channels into the nostrils themselves, and thence into the head. When the elephant ejects the water from the trunk to the mouth, a gurgling sound is produced by the passage of the air ; the lips are motionless.



As an organ of touch, the proboscis of the elephant is exquisitely fine. Elephants sometimes go blind ; and, under that privation, the poor animal can not only collect its food, and discriminate as to its quality, by this wonderful instrument, but can travel, without much difficulty, over unequal ground, avoiding lumps and hollows, and stepping over ditches. The creature, under such circumstances, rarely touches the ground with its trunk ; but, projecting it forward as far as possible, lets the finger, which is curled inward to protect the nostrils, skim along the surface, to the inequalities of which this organ adjusts itself with wonderful exactness.*

The great care of the elephant, whether he be in a state of nature, or under the control of man, is invariably to put his trunk out of harm, as far as he can, when any danger presents itself. If he is attacked by a tiger, or any other wild animal, he carries his trunk as high as he can in the air ; and if this delicate organ be in the slightest degree injured, the elephant becomes wild with rage and terror. He is even afraid of a dead tiger, and carefully puts his trunk out of reach. The instinct by which the creature defends and preserves this precious instrument, is in proportion to its paramount importance. Mr Williamson saw an elephant whose trunk had been cut through with a bill-hook ; and though the wound was healed, the animal was perfectly helpless — unable to supply its own food, and incapable of even travelling without danger. He was fed with bundles of grass, which were put into his mouth ; had he been in a state of nature, he must have perished. An affecting example of the instinct with which the elephant preserves his trunk, is exhibited in the death of the poor animal who was burnt at Dublin.

* See Williamson, p. 78.

The author of the Anatomical Account says — ‘Doubtless the elephant’s care to preserve the proboscis was great; for when we dissected him *we found it thrust near two feet into a very hard ground*; upon which account we thought it had been burnt, till the head was divided from the body, and then we found it kept fast to the ground by the proboscis.’

The care with which the elephant endeavours to put his trunk out of danger makes him extremely cautious of using it as a weapon. He rarely strikes with it; though he will frequently throw clods and stones with it at objects which he dislikes. Elephants often thus attack hogs, casting their missiles with tolerable force and precision.* This fact is a confirmation of Busbec’s account of the animal playing at ball. One of the elephants in the Jardin des Plantes is extremely expert at playing with a log of wood, which it will often do, to the great amusement of the crowd.

The power of crossing rivers must be essential to the existence of the elephant in a state of nature; for the quantity of food which a herd of elephants consume renders it necessary that they should be constantly moving from place to place. The elephant crosses a stream in two ways. If the bed of the river is hard, and the water not of too great a depth, he fords it. It is a matter of indifference to him whether his body be completely immersed in the water; for as long as he can bring the tip of his trunk to the surface, so as to breathe the external air, he is safe. But the elephant will require to cross the largest rivers as well as the smallest brooks, in his search for food; and it may even be requisite for him to pass such mighty waters as the Ganges and the Niger. The elephant swims deep — so deep that the

* Williamson.

end of his trunk only is out of the water. With this instrument for breathing, he trusts himself fearlessly to his native rivers. In a state of captivity, he is somewhat more cautious; although a well-trained elephant will readily swim, or wade with his driver on his back. This situation is, however, sometimes one of danger to the rider; for the animal, regardless of the mohout, whom he has completely in his power, will sink his body greatly below the surface, having this faculty of breathing through the end of his trunk; and then the frightened driver has no resource but to stand upon his back.



CHAPTER III.

The structure of the Elephant, exhibited in connexion with its natural habits ; — continued.

THE construction of the elephant's head indicates that its scent is remarkably acute. Anatomists point out the excellence of its organ of smelling, in the complicated formation of the ethmoid bone, and the largeness of the frontal sinuses.* As elephants live in troops, and yet must often disperse for the collection of their food, it is a necessary condition of their existence that they should have such an acuteness in the organs of smelling and hearing, as will enable them to gather together without difficulty. These organs are of more importance to them than that of sight; for in thick woods and high jungles, in which they generally abound, the eye would avail little in directing them to particular spots, either for food or society. The eye of the elephant is unusually small. This comparatively diminutive size of the eye assists in its protection from injury amidst the bushes where he seeks his food; — and it is provided with a nictitating membrane, by which he is enabled to free it from all small noxious substances, such as broken leaves and insects. Small as the eye is, it is by no means an imperfect organ; although he cannot direct its range above the level of his head. The trunk supplies the deficiency; — and the sense of smelling directs the organ of touch to such food as

* See Lawrence's and Coulson's Translation of Blumenbach, p. 272.

he gathers from trees. His sense of smelling is in all respects much more powerful than his sight. Sparmann, an African traveller, gives an example of this, in the adventure of a native who was chased by a large elephant, to his great terror, under circumstances where he fancied himself secure. His words, in describing his conviction of the elephant's powerful sense of smelling, were these:—'With respect to the place I was in at first, I am certain that the animal could not see me, and consequently, that he first found me out by the scent.' Mr Corse says that elephants discover a tiger-track readily, by the smell.

The structure of the elephant's ear has been investigated with great accuracy by Sir Everard Home.* The drum, and every other part of the organ, are much larger in proportion than in other quadrupeds, or in man; and there is a remarkable difference in the arrangement of the muscular fibres of the drum of the elephant's ear, when compared with man and some other quadrupeds. In the human ear, these fibres are radii of a circle; and in the horse, the hare, and the cat, they are of an uniform length. But in the elephant's ear these fibres are so placed, that some are more than double the length of others. Sir Everard Home argues from this remarkable construction, that the elephant has not a musical ear; but that it has a peculiar compensating power in this length of fibre, as its slower vibrations enable it to hear sounds at a greater distance: and this opinion is still further sustained by the structure of the different parts of the internal organ, more particularly the cells between the tables of the skull. Sir Everard Home illustrates his position that the elephant hears farther than other animals, and particularly that his hearing is more acute than that of man, by the following statements, which he gives upon the authority of Mr Corse:—

* *Comparative Anatomy*, vol. iii, Lecture ix.

‘A tame elephant, who was never reconciled to the sound of a horse moving behind him, although he expressed no uneasiness if the horse was either before or on one side within his view, could distinguish the sound of a horse’s foot at a distance, some time before any person in company heard it. This was known by his pricking up his ears, quickening his pace, and turning his head from side to side.

‘The cells in the skull of the elephant explain the sounds from the ground striking his ear with more force; and explain an assertion very generally believed, that an elephant, when he comes to a bridge, tries the strength of it by his foot, and if his ear is not satisfied with the vibration, nothing can induce him to pass over it.

‘A tame female elephant, who had a young one, was occasionally sent out with other elephants for food, without the young one being allowed to follow. She was not in the habit of pining after her young one, unless she heard its voice; but frequently, on the road home, when no one could distinguish any sound whatever, she pricked up her ears, and made a noise expressive of having heard the call of her young. This, having occurred frequently, attracted Mr Corse’s notice, and made him, at the time when the female elephant used such expressions, stop the party, and desire the gentlemen to listen; but they were unable to hear any thing till they had approached nearer to the place where the young elephant was kept.’

That this acuteness of hearing was implanted in the elephant for a wise purpose, we can have no doubt; for in the whole animal creation we constantly find that means are adapted to ends — that no being is endowed with a peculiar power, without at the same time having a peculiar mode of employing it. As surely as the extraordinary scent of the lion conducts

him to his prey, and the more wonderful sight of the vulture informs him where the carcass has fallen, so is the acute organ of hearing in the elephant intended to promote some great object of his animal and social economy. Let it not be forgotten, that as he is by far the largest of terrestrial creatures, he would be constantly exposed to peril from his own enormous weight, unless he had senses delicate enough to avert this peculiar evil. That his organ of touch is exquisitely fine, we have already seen; and when this is conjoined with an equally sensitive organ of hearing, we can understand why the elephant so rarely treads upon surfaces which are unable to support him — why he equally avoids the pitfall and the slough — why, although he delights in water, and cannot comfortably exist in places where there are no opportunities of drinking and bathing at his pleasure, he is scarcely ever betrayed by the slimy ooze or the shifting sand, but seeks those rivers where the bottom is hard, and upon which he can stand as fearlessly as upon the gravelly plain. The elephant, as we have repeatedly mentioned, is a social animal; yet, from the quantity of provisions which each requires, the individual must often feed apart from the herd — the male separated from the female, the young from the old, the mother, perhaps, from her little one. But the elephant has an expressive organ of voice. The sounds which he utters have been distinguished, by his Asiatic keepers, into three kinds. The first, which is very shrill, and is produced by blowing through his trunk, is indicative of pleasure; the second, produced by the mouth, is a low note expressive of want; the third, proceeding from the throat, is a terrific roar of anger or revenge. It will be perceived why an animal, which in some degree owes its safety to its social qualities, and which, individually, is unwilling to engage in a contest with the fiercer beasts of prey,

should have the means of understanding, by the distant voice of its fellows, when there is a common danger at hand; and, at the same time, should have his organ of hearing sufficiently acute to distinguish the cry of hunger from the scream of terror, and both from the shrill pipe of satisfaction.

But the elephant may be endued with this acute hearing, in addition to his exquisite touch, for the protection of the lesser animals from the accidents to which they would be subject from lying in his path. He has an extraordinary dislike to all small quadrupeds. Dogs running near him produce a great annoyance; if a hare start from her cover, he is immediately alarmed; and that pigs are his aversion has been recorded by every naturalist, from Pliny to Buffon. It is even mentioned by Procopius, the historian of the Persian and Gothic wars, that, at the siege of Edessa, by Chosroes, King of Persia, in the time of Justinian, the besieged Greeks employed the cry of a pig to frighten from the walls the elephants of their enemy. The old naturalists explained this peculiarity by the doctrine of antipathies; in the same way that they affirmed that the elephant was fond of an ox, upon the principle of sympathies. It may appear something equally fanciful to suggest the possibility that the elephant may dislike the smaller animals to come in his way from his instinctive disinclination to destroy them, by an accidental tread. He always avoids a contest with inferior quadrupeds wherever he can; and if a helpless living creature, such as an infant or a wounded man, lie in his way, he will remove the object. The elephant is naturally gentle — anxious alone to procure his own food without molesting others. That he is so, is a merciful, as well as a wise dispensation. If he had possessed a

ferocity equal to his power, he must have exterminated a very large part of the animal creation.

Sir Everard Home is of opinion, that the elephant has not a musical ear; but, however this may be, the animal is evidently not insensible to musical sounds. We have observed the female elephant now at Mr Cross's menagerie bring forward her ears, as the Guards have marched from the adjoining barrack to the loud notes of a military band; and the motions of her restless body have certainly been adapted to the movement of the air, which she gave evidence of having heard. Sir Everard Home presents us with an example of the power of the elephant to discriminate between the two great properties of musical sounds — a different capacity, certainly, from that of a musical ear, but still very remarkable: —

‘As a matter of curiosity, I got Mr Broadwood to send one of his tuners with a pianoforte to the menageries of wild beasts in Exeter Change, that I might know the effect of acute and grave sounds upon the ear of a full-grown elephant. The acute sounds seemed hardly to attract his notice; but as soon as the grave notes were struck, he became all attention, brought forward the large external ear, tried to discover where the sounds came from, remained in the attitude of listening, and after some time made noises by no means of dissatisfaction.’

An experiment upon the musical capacity of the elephant was made upon the male and female of the Jardin des Plantes, in 1798. The result is described at great length in the ‘*Décade Philosophique*,’ a periodical work of that time; and, making every allowance for the apparent exaggerations of some of the statements, it seems tolerably certain that the elephants were differently affected by different pieces of music: although we may suspect that the en-

thusiasm of the musician had something to do with the assertion, that the tender air of *charmante Gabrielle* plunged them into a species of voluptuous languor, and that the lively movement of *ça ira* roused them to an extraordinary state of excitement. The whole narrative certainly adds some confirmation to the account which Ælian gives of the modulated dance of the elephants of Germanicus.

We have seen that the elephant rarely uses his trunk as a weapon. But nature has given him most formidable means for resisting his enemies. His tusks, or, as the French naturalists more properly call them, his *défenses*, enable him not only to clear his way through the thick forests in which he lives, by rooting up small trees and tearing down cross branches, during which service they effectually protect his face and proboscis from injury; but they qualify him for warding off the attacks of the wily tiger and the furious rhinoceros, often securing him the victory by one blow which transfixes the assailant to the earth. At particular seasons, when the passions of the male elephant are furiously excited, the more powerful of the herd will wound or destroy the weaker with their tusks. Mr Corse thus saw a stately male elephant gore two small elephants, in the midst of the herd, in a terrific manner. ‘When the poor animals were thrown down, conscious of their impending fate, they roared most piteously; but notwithstanding their prostrate situation and submissive cries, he unfeelingly and deliberately drove his tusks through, and transfixed them to the ground.’* Large male elephants, which in Hindostan are called *goondahs*, are often found wandering from the herd; and the natives believe that they are driven from the community as a punishment for their ferocious excesses. Mr Corse, however, doubts this; and he states that at the display

* Phil. Trans. 1799.

of rage which he witnessed, 'none of the large elephants, not even the dams of the sufferers, came near to relieve them.'

Though the opinion has long been exploded that the elephant is unable to lie down, it is probable that, as he advances in age, he often sleeps in a standing posture. The popular notion was, according to Sir T. Brown, that 'it sleepeth against a tree; which the hunters observing do saw it almost asunder; whereon the beast relying, by the fall of the tree falls also down itself, and is able to rise no more.' When an elephant is first taken by the hunters, he will seldom lie down to sleep for several months; and some have been known obstinately to stand a year at the place where they were picketed. When they are sick, they pertinaciously stand as long as they are able; if they lie down, no hope of recovery remains.* We have seen that Mr Cross's elephant would not lie down unless her keeper were in her den; and it is probable, that, in a wild state, when the elephant is at all disturbed or apprehensive of danger, he takes a short sleep standing, if he sleep at all. When he thus sleeps, it is most probable that his tusks furnish him a support; and that, placing them against a tree, he relieves the weight which his head carries, and enjoys a partial repose with tolerable ease. An example of this was given by the elephant of Louis XIV. For the last five years of his life he did not lie down, till he was sick; and 'he employed his tusks in making two cavities in the two faces of a stone buttress which projected from the wall of his cell, and these cavities served him for a support when he slept, his tusks being fixed in them.†

The tusks of the elephant correspond with the canine teeth in other quadrupeds. It was an old opinion, which has been often refuted, that the tusks

* Williamson.

† Perrault Memoires, vol. ii, p. 512.

of elephants are horns. Although the substance of which they are composed, called ivory, is certainly different from the bone of other teeth, it is formed like other teeth by successive secretions from a pulpy root (*noyau*). The tusk has no adhesion to this root, but is held in its alveole (socket) as a nail is held in a plank, by the elasticity of the parts alone. The external direction of the tusk may be somewhat changed, by accident, or design, for this reason. The ivory is formed, from within, by depositions of very thin *laninæ*; so that the outer surface will continue to bear any mark which is scratched on it. Instances have repeatedly occurred of musket-balls having been found imbedded in the tusk of an elephant, without any visible external aperture; and this curious circumstance has given rise to some controversy among anatomists. Some have thought that the aperture was filled up by the organic force of the tusk; but it is likely, that in many cases, the foreign substance did not enter at the place where it was found. We have, however, a piece of ivory lying before us, in the solid substance of which a wrought-iron musket ball is imbedded, about an inch from the surface; and the place where the ball entered is distinctly seen, the aperture being, indeed, filled up by a new deposition, but having the appearance of a knot in a tree. This piece of ivory was cut in Mr Hawkins's pianoforte manufactory, in 1805, and was lent to us by that gentleman. There are similar specimens in the Museum of the London University. A ball, or other hard substance, may penetrate the tusk at the hollow part, and descend into the solid, in a manner which is thus clearly explained: 'If a ball penetrate the side of a tusk, cross the cavity, and lodge in the slightest way on the opposite side, it will become covered towards the

cavity by the newly deposited layers of ivory, while no opening will exist between it and the surface to account for its entrance. If it have only sufficient force to enter, it will probably sink, by its own weight, between the pulp and tooth, until it rests at the bottom of the cavity. It there becomes surrounded by new layers of ivory ; and as the tusk is gradually worn away, and supplied by new depositions, it will soon be found in the centre of the solid part of the tooth. Lastly, a foreign body may enter the tusk from above, as the plate of bone which forms its socket is thin ; and if this descends to the lower part of the cavity, it may become imbedded by the subsequent formations of ivory. This must have happened in a case where a spear-head was found in an elephant's tooth. The long axis of the foreign body corresponded to that of the cavity. No opening for its admission could be discovered ; and it is very clear that no human strength could drive such a body through the side of a tusk.* In the section of the elephant's head, at p. 47, *e* exhibits the alveole of the tusk, and *f* its cavity opened, to show the space which the pulp occupies.

The elephant has milk-tusks which he sheds between the first and second year, when not two inches in length. In a month or two after this process the permanent tusks cut the gum. These second tusks remain during the life of the animal ; they are never again shed. The tusks of the Indian female are very small in comparison with those of the male ; but they are used as weapons of defence against other elephants. The tusks of the male vary in size according to the species and the age of the animal. Those of the Indian elephant of Bengal rarely exceed seventy

* Phil. Trans. 1801 ; quoted in Lawrence's and Coulson's translation of Blumenbach.

pounds each in weight; though tusks have been brought to the India House weighing one hundred and fifty pounds each. Bernier saw two remarkable tusks in India, each of which was too heavy for a man to lift. Cuvier is of opinion that our knowledge of the African elephant, limited as it is, warrants us in concluding that the females of that species have large tusks; and that the disproportion of their size in the two sexes, is far less than in the Indian species.* This opinion, however, is not borne out by travellers. Mr Burchell ascribes the want of success of some elephant hunters whom he met with, to the circumstance of their having only encountered females with small tusks. Cuvier has published a table of the length, diameter, and weight of the largest tusks, whether of the Indian or African species, of which any account has been given. The largest on record was one sold at Amsterdam, according to Klokner, which weighed three hundred and fifty pounds. Several tusks, measured by Eden, were nine feet in length; and one described by Hartenfels, in his *Elephantographia*, exceeded fourteen feet. The largest in the Museum of Natural History at Paris is nearly seven feet in length, and about five inches and a half in diameter at the large end. As the tusks grow throughout the life of the animal, and the rest of the body does not, they offer no certain standard by which we can estimate the size of the elephant to which they have belonged. Nor can we establish any proportion between their diameter and their length, as they are liable to be worn at the points, according to the use which the animal makes of them. There is no relation, either, between their weight and their dimensions, as the cavity at the base is more or less filled, in particular individuals of the same species. The cur-

* *Annales du Muséum*, tom. viii, p. 131.

vature of the tusks is also subject to great variations. Some of the Indian elephants, with large teeth, called *Dauntelah*, have their tusks varying from a projecting horizontal but rather elevated curve, to a form almost straight. Those elephants which are called *Mooknah*, have their tusks pointing directly downwards. Several tusks are preserved in European cabinets, of the most remarkable form; some being spiral, and others, which are more common, in the shape of an italic *S*. It is probable, in the present day, when herds of elephants are scarce, as compared with times of less advanced civilization, and when those which are found are hunted for their ivory without remorse, that few elephants live the natural term of their life; and that the tusks, therefore, which come to Europe, are of smaller size than those possessed by the ancients. We shall examine this point in a subsequent chapter on the use of ivory by the ancients in architecture and sculpture.

The construction of the elephant's grinding teeth is one of the most striking examples of the adaptation of the teeth of every animal to its peculiar mode of subsistence. It is evident, that as the elephant has not a ruminating stomach, and yet requires vast quantities of vegetable food for his support, the instruments by which he masticates his food should be either more durable than in other herbivorous animals, or should be renewed when their grinding surfaces are worn away. The duration of the teeth of all quadrupeds is in proportion to their ordinary term of existence. In man, whose artificial modes of life may induce a quicker decay of the teeth, but who can supply the deficiency by the art which teaches him to prepare his food so as to suit his powers of mastication, the complete loss of teeth does not necessarily indicate a termination of life. But to an animal that feeds upon grass, and other indigestible vegetable substances,

the destruction of the teeth involves a speedy death; and therefore, in most cases, the decay of the teeth is simultaneous with a general decay. ‘The teeth of the deer and sheep are worn down in a much less time than fifteen years; those of horned cattle in twenty years; those of the horse in forty or fifty years; while those of the elephant last a century; if the animal were to grow to double its present size, there is a provision for the continuance of the teeth: but as soon as the growth of the jaw is stopped, the succession of the teeth is arrested also; which fixes the duration of the animal’s life.’* The provision which Nature has made for enabling the elephant to masticate not only a larger quantity of food than other animals, but through a much greater series of years—to wear his teeth more, and to wear them longer—is by securing their renewal when they are worn out.

To describe the peculiar manner in which this remarkable operation is effected would lead us into a description of the mode in which teeth generally are formed. To the anatomical student this branch of his science is singularly interesting; and on the subject of the elephant’s teeth, he may find the most complete and satisfactory dissertations in Cuvier’s admirable article, ‘*Sur les machelières des éléphants*,’† and in Sir Everard Home’s *Lecture on the Complex Teeth*.‡ For popular information we transcribe a passage of a very well-written paper on elephants, which had the advantage of Mr Corse’s revision, in Dr Brewster’s *Edinburgh Encyclopædia*:—

‘The elephant has no cutting teeth in either jaw in front; but he is furnished with most powerful grinders, that enable him to bruise the vegetables on which he feeds. These teeth, as in all herbivorous animals,

* Home’s *Comp. Anat.*, vol. i, p. 215.

† *Ann. du Mus.*, tom. viii, p. 98. ‡ *Comp. Anat.*, i. 203.

have an uneven surface; but do not rise into points as in animals which feed on flesh. Each grinder is composed of a number of perpendicular laminæ, which may be considered as so many teeth, each covered with a strong enamel, and joined to one another by a bony substance of the same quality as ivory. This last substance, being much softer than the enamel, wears away faster by the mastication of the food, so that the enamel remains considerably higher; and, in this manner, the surface of each grinder acquires a ribbed appearance, as if originally formed with ridges. From very accurate observations which have been made on the Asiatic elephant, it appears, that the first set of grinders, or milk-teeth, begin to cut the jaw eight or ten days after birth, and the grinders of the upper jaw appear before those of the lower one. These milk-grinders are not shed, but are gradually worn away during the time the second set are coming forward, and as soon as the body of the grinder is nearly worn away, the fangs begin to be absorbed. From the end of the second to the beginning of the sixth year, the third set come gradually forward as the jaw lengthens, not only to fill up this additional space, but also to supply the place of the second set, which are, during the same period, gradually worn away, and have their fangs absorbed. From the beginning of the sixth, to the end of the ninth year, the fourth set of grinders come forward, to supply the gradual waste of the third set. In this manner, to the end of life, the elephant obtains a set of new teeth as the old ones become unfit for the mastication of his food.

‘The milk grinders consist each of four teeth, or laminæ; the second set of grinders of eight or nine laminæ; the third set of twelve or thirteen; the fourth set of fifteen, and so on to the seventh or eighth set, when each grinder consists of twenty-two or twenty-three; and it may be added, that each suc-

ceeding grinder takes at least a year more than its predecessor to be completed.'

In the cut at page 47 (*Section of the Elephant's skull*), *h* shows the anterior tooth reduced almost to nothing, by detrition, and by the compression of the succeeding tooth, and its own alveole. *i* shows the tooth in activity, the roots of which begin to form at *k*; the triturating part is already used on its face, *l*. The posterior laminæ are yet untouched. *n* is the germ of the back-tooth, still enclosed in its membranous cover (*capsule*), and lodged in a cavity of the back jaw.*

We have already mentioned an instance of the ferocity of the elephant under a peculiar state of excitement, as observed by Mr Corse. This state is indicated in both sexes, and is probably in some degree relieved, by the secretion of a brownish juice from a considerable gland at the temple, through an opening in the skin. This aperture is situated between the ear and the eye, on each side of the head, and the gland is immediately under the skin, on each side also. The glands are as much as six inches in diameter, but the aperture is scarcely perceptible.† This peculiarity is noticed by Strabo; and the Indian mythology has seized upon the circumstance as the foundation for one of its fanciful devices:—‘The Hindoo poets frequently allude to the fragrant juice which oozes, at certain seasons, from small ducts in the temples of the male elephant, and is useful in relieving him from the redundant moisture with which he is then oppressed; and they even describe the bees as allured by the scent, and mistaking it for that of the sweetest flowers. When Crishna visited Sanc’hadwip, and had destroyed the demon who infested that

* For a more minute representation of these parts, see *Annales du Muséum*, tom. viii, pl. 41.

† *Mémoires de L’Académie des Sciences*, tom. iii.

delightful country, he passed along the bank of a river, and was charmed with a delicious odour which its waters diffused in their course. He was eager to view the source of so fragrant a stream, but was informed by the natives that it flowed from the temples of an elephant, immensely large, milk-white, and beautifully formed; that he governed a numerous race of elephants; and the odoriferous fluid which exuded from his temples had formed the river.* This fable was probably one of the many modes in which Hinduism revered the reproductive power of Nature. A singular circumstance is mentioned by Mr Cowper Rose, — that the natives of Africa often find a piece of wood in the elephant's head, to which they attach great value as a charm. Mr Rose does not seem to have been acquainted with the uses of the gland just described, but his narrative explains the manner in which the wood enters the head — for enter it must. 'I sat on one (a dead elephant) while they searched for the wood in his head. It lies about an inch beneath the skin, imbedded in fat, just above the eye, and has the appearance of a thorn, or a small piece of twig broken off. Some are without it; and on examining the spot minutely, we found that there was a small opening in the skin, — a large pore it may be; and I conceive that this phenomenon is simply accounted for by the twig breaking in this hole when the animal is in the act of rubbing his head against the bushes.†

The skin of the existing species of elephant has very little hair upon it; a fossil specimen has been found, in which the hair was very thick. The existing species are evidently adapted to live in hot climates; for with the exception of a few hairs on the legs, and

* Wilford, in *Asiatic Researches*, vol. iii.

† *Four Years in Southern Africa*, p. 286.

on the crown of the head, the animal has no covering over his skin to protect him from cold. The same deficiency makes him very sensible to heat, and particularly careful to defend himself from the annoyances of insects. The skin is generally smooth and soft; and becomes hard and knotty from disease, produced, probably, by an uncongenial temperature. Mr P. Blair, in the account of his dissection of the Dundee elephant, says, ‘the cuticula was covered all over with a strange sort of scab, like short pieces of whalebone, much divided, but adhering fast: they were from one-sixteenth to one-sixth of an inch in length. I take them to be a distemper from the coldness of the climate.’* The inconvenience of this want of hair, in hot climates, is lessened by the disposition of the animal to bathe. Bishop Heber has described this habit of the elephant, as he observed the enjoyment of a number upon his approach to Dacca: — ‘At the distance of about half a mile from these desolate palaces, a sound struck my ear, as if from the water itself on which we were riding, the most solemn and singular I can conceive. It was long, loud, deep, and tremulous, something between the bellowing of a bull and the blowing of a whale, or perhaps most like those roaring buoys which are placed at the mouths of some English harbours, in which the winds make a noise, to warn ships off them. “Oh,” said Abdallah, “there are elephants bathing; Dacca much place for elephant.” I looked immediately, and saw about twenty of these fine animals, with their heads and trunks just appearing above the water. Their bellowing it was which I had heard, and which the water conveyed to us with a finer effect than if we had been on shore.’† The elephant also possesses the power of ejecting from his trunk, water and dust, and his own saliva,

* Phil. Trans.

† Journal vol. i, p. 182.

over every part of his body. 'Nature has provided the elephant with means to cool its heated surface, by enabling it to draw from its throat, by the aid of its trunk, a copious supply of saliva, which the animal spirts with force very frequently all over its skin. It also grubs up dust, and blows it over its back and sides, to keep off the flies; and may often be seen fanning itself with a large bough, which it uses with great ease and dexterity.* Mr Southey has described this habit of the elephant, in a natural state, in a passage of great beauty: —

'Trampling his path through wood and brake,
And canes which crackling fall before his way,
And tassel-grass, whose silvery feathers play
O'ertopping the young trees,
On comes the elephant, to slake
His thirst, at noon, in yon pellucid springs.
Lo! from his trunk upturn'd, aloft he flings
The grateful shower: and now
Plucking the broad-leav'd bough
Of yonder plume, with waving motion slow,
Fanning the languid air,
He waves it to and fro.†

As our knowledge of the growth of the elephant has been acquired from those which have either been bred, or born, in captivity, we shall reserve this portion of our subject for the next chapter.

The ancients, according to Philostratus, were inclined to think that the elephant lived more than four hundred years. They founded this belief upon the authority of a story of one with a particular mark having been captured by Juba, King of Lydia, four hundred years after a battle, in which the animal had fled to Mount Atlas. This is not grounded upon a sufficiently accurate chronology to command our belief. Tavernier appears to have

* Oriental Sports.

† Curse of Kehama, xiii.

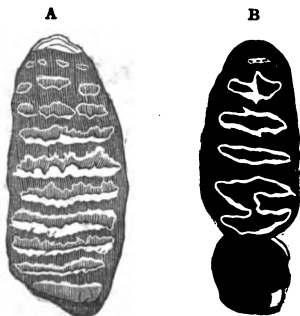
had tolerable evidence, from the accounts of the keepers of elephants in India, that particular individuals had been in captivity from one hundred to one hundred and thirty years. The elephant is, doubtless, a very long lived animal; and the provision for the renewal of its teeth shows that the Author of Nature intended that his abode on this earth should be, in comparison with other quadrupeds, and even with man, a prolonged existence. Pliny, upon the authority of Aristotle, states that the elephant lived two or three hundred years; and the Romans, in the time of Gordian, in the spirit of poetical exaggeration, chose an elephant for the symbol of eternity.*



* Sallengre Thesaurus, tom. iii, p. 212. The above medal was struck in honour of Tranquillina, the wife of Gordian. Cuper thinks that the legend 'Æternitas Aug.' is expressive of a wish for the long continuance of the reign of the emperor — as long even as the life of the elephant.

We are principally indebted to the accurate researches of Cuvier for the determination of the specific differences of the Indian and the African elephant. Neither Buffon nor Linnæus conceived that there was more than one species; and, until the time of Camper, the remarkable distinction in the structure of the teeth of the two species was entirely unobserved.

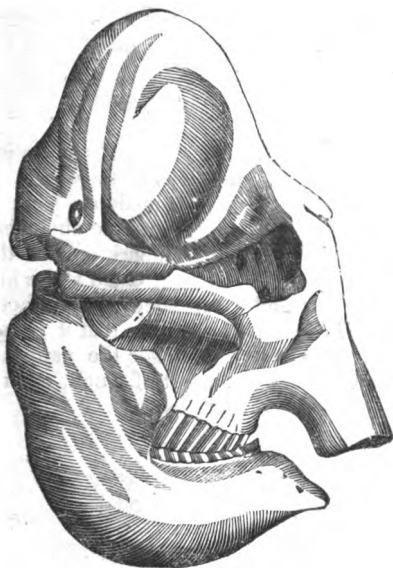
This distinction, to which, in all cases, naturalists properly attach great importance, may be observed in the germs of the molar teeth; and from the peculiar conformation of these germs, when the tooth has been used, its surface presents, in the Indian species, a series of narrow transverse ribands, of an equal size, whose edges are, as it were, scalloped; while in the African species the ribands assume a lozenge form,—that is, they are larger in the middle than at the ends, and the edges are rarely scalloped. The laminæ being larger in the African species than in the Indian, a smaller number are required to form a tooth,—nine or ten uniting to complete a tooth of the one species as large as one composed of thirteen or fourteen laminæ in the other.*



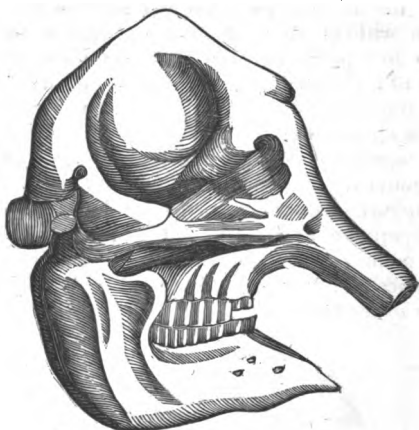
Cheek teeth: A, of the Indian species, B, of the African.

* *Annales du Muséum*, tom. viii, p. 123.

But the distinctions of the two species are evident enough without an examination of the molar teeth Cuvier first pointed out, in 1795, the distinctive characters of their heads. In the Indian species the summit of the head forms a sort of pyramid; in the African it is almost round. The front of the head in the Indian species is concave; in the African it is somewhat convex. There are many other differences in the structure of the head, which are highly interesting to comparative anatomists, but which we could not easily point out without the use of scientific terms. The general differences will be readily seen by a comparison of the two skulls.



Skull of the Indian Elephant.



Skull of the African Elephant.

The most striking difference of each species is, however, exhibited in the dimensions of the ears. In the Indian elephant the ear is of a moderate size; in the African it is enormous, and covers the shoulder. In the cabinet of the King of Denmark there is the ear of an elephant, shot at the Cape of Good Hope in 1675, which is three feet and a half long, by two feet and a half wide. Mr Pringle informs us that it is not uncommon in Southern Africa to see the natives using the ear of an elephant as a sort of truck, upon which they drag manure, and other loads.

CHAPTER IV.

The Indian Elephant. Fertility in a state of Confinement. Growth.
Modes of taking wild Elephants in Asia.

WE have already noticed the assertion of Ælian, that elephants were bred at Rome; and Columella, a writer on rural affairs, distinctly says, 'within our own walls (Rome) we have seen elephants born.'* In India it was thought unlucky to allow tame elephants to breed; but the Emperor Akbar overcame this scruple.† The custom, however, evidently went into disuse; for Tavernier, and other oriental travellers, were not only ignorant of the fact, but expressly asserted that the circumstance never took place. Upon this inaccurate information many writers on natural history founded a theory that the proud elephant refused to multiply slaves for the use of man. The experiments of Mr. Corse have, however, completely set this question at rest; and though it is probable, as long as elephants are sufficiently numerous to be taken in herds, that the greater expense of breeding them will discourage any attempts to continue the species under the direction of man, there is no doubt, if it were desirable, that the elephant might be improved in size, strength, and activity, exactly in the same manner that the horse of England has been rendered so superior in power and swiftness to the horse in a state of nature, by a judicious intermixture of various races.

The ordinary period of gestation in the elephant is

* De Re Rustica, lib. iii, cap. 8. † Ayeen Akbery, vol. i.

twenty months and eighteen days. This point has been established by the observations of Mr Corse. The young elephant at its birth is about thirty-five inches high. In the first year he grows about eleven inches; in the second eight; in the third six; in the fourth five; in the fifth five; in the sixth three and a half; and in the seventh two and a half. Mr Corse thinks that elephants attain their full size between eighteen and twenty-four years of age; though other writers, reasoning from the duration of life, believe that the animal continues to increase in size, when in a state of nature, for nearly double that period.

Mr Ranking, who was resident many years in Hindostan, 'saw an elephant in Bengal when it was only eighteen hours old. It was about thirty-three inches high, weak and tottering, but very playful, twisting in its proboscis a few blades of large grass.'* That the young elephant sucks with its mouth is now distinctly ascertained. It is somewhat a humiliating reflection for the pride of human knowledge, which grasps at so many things beyond the limits of reason, and is lamentably ignorant of some of the commonest circumstances that happen on the earth, that a point apparently so simple should long have remained in doubt; and that several of the most deservedly popular writers should have maintained that the young of the elephant did, in this particular, exactly what it does not, and were ready to establish their position by the most incontrovertible theories. The pertinacity of those who speculate on events without evidence, and who support their speculations even against the most distinct evidence, is curiously exemplified in M. Houel's account of the habits of the elephant; for

* Wars and S orts of the Mongols, &c, p. 444.

he refuses to believe M. le Vaillant's narrative of his own observation of the young elephant sucking with his mouth, because Perrault and Buffon had asserted the contrary, upon the soundest analogies! Mr Corse's account of the actual process is the most precise which we have met with.

'The young of the elephant, at least all those I have seen, begin to nibble and suck the breast soon after birth, pressing it with the trunk, which by natural instinct they know will make the milk flow more readily into the mouth, while sucking. Elephants never lie down to give their young ones suck; and it often happens, when the dam is tall, that she is obliged for some time to bend her body towards her young, to enable him to reach the nipple with his mouth: consequently, if ever the trunk was used to lay hold of the nipple it would be at this period, when he is making laborious efforts to reach it with his mouth, but which he could always easily do with his trunk, if it answered the purpose. In sucking, the young elephant always grasps the nipple, which projects horizontally from the breast, with the side of his mouth. I have very often observed this; and so sensible are the attendants of it, that with them it is a common practice to raise a small mound of earth, about six or eight inches high, for the young one to stand on, and thus save the mother the trouble of bending her body every time she gives suck, which she cannot readily do when tied to her picket.*' M. Foucher d'Obsonville, who had also observed the young elephant playing with the teat of the mother with his trunk, attributes the prevalent error to this circumstance. Mr Williamson says, that the position of the two breasts of the female enables the young one (technically called a calf) to suck

* Phil. Trans. 1799.



as it runs along by the side of the mother, or even under her belly.*

The affection of the female elephant for her young has been denied by some writers. Mr Williamson, however, gives an anecdote which contradicts this opinion. He says, 'a female elephant will trust her young with great confidence among the human species, but is very jealous of all brutes. If, however, they suspect any trick, or perceive any danger, they become ungovernable. I recollect being one of many who were seated at the top of a flight of stone steps at the entrance into the Great House at Secrole, and had enticed the calf of a very fine, good-tempered elephant feeding below to ascend towards us. When

* Oriental Field Sports, p. 43,

she had nearly got up the steps her foot slipped, and she was in danger of falling; which being perceived by the mother, she darted to save the rambler, sending forth a most terrific roar, and with such a significant eye as made us all tremble. She guided the descent of her little one with wonderful caution, none of us feeling the least disposition to offer any aid on the occasion.* Captain Knox, who was detained for twenty years a captive in Ceylon, says, 'As the Chingalays report, they bear the greatest love to their young of all irrational creatures; for the shes are alike tender of any one's young ones as of their own. Where there are many she-elephants together, the young ones go and suck of any, as well as of their mothers: and if a young one be in distress, and should cry out, they will all in general run to the help and aid thereof; and if they be going over a river, as here be some somewhat broad, and the streams run very swift, they will all with their trunks assist and help to convey the young ones over.†

The calf of the elephant, like the young of every animal, follows its mother with great perseverance; although he is ready enough to frisk about in his rude way, and especially to play with children; as if he had the lightness of a kid. These sports may remind us of the assembly of 'all beasts of th' earth' before our common parents in Eden, when

' th' unwieldy elephant
To make them mirth used all his might.‡

Mr Williamson says, 'the calves are extremely playful, but possess great strength, rendering their gambols rather dangerous;' and Tavernier has an agreeable passage describing their mode of play.

* Oriental Field Sports, p. 43.

† Historical Relation of Ceylon, chap. vi.

‡ Paradise Lost, book iv.

‘ When merchants bring elephants to any place for sale, ’tis a pleasant sight to see them go along. There are old and young together, and when the old are gone by, the children run after the little ones, and leap upon their backs, giving them something to eat; but perceiving their dams are gone forward, they throw the children off, without hurting them, and double their pace.’*

The young elephants which are reared in our Indian settlements are principally produced by the females that are taken wild at the time they are in calf. It does not appear that there is any difficulty in the education of these little ones, who are accustomed to a domestic state from their birth; but that they are gradually accustomed to bear burthens, and to become obedient to the commands of their keepers. In the kingdom of Ava, where the female elephants belonging to the king are in a state of half wildness, there is considerable trouble in reducing the young ones to submission. Mr Crawford, who was the British envoy to the court of Ava in 1827, has given an account of this curious operation:

‘ The young male elephants are weaned at three years old, — that is to say, they are then separated from their dams, and broken in, — a process which appears to be nearly as tedious and difficult as that of breaking in a full-grown elephant taken in the forest. A singular ceremony was performed before this process commenced, which deserves mention: — It consisted of an invocation to the Nat Udin-main-so, the genius of elephant hunting. Between the walls of the town and an artificial mount planted with trees, and raised upon a ledge of rocks, jetting into the Irawadi, there is a small elephant paddock, consisting of a single square palisade having no gates

* Tavernier’s Travels, part ii, book 1.

The king sat under a little pavilion on the side of the mount, and directed in person the ceremony to which I allude. A banana tree had been planted in the middle of the paddock, which was removed with great ceremony; and on the spot where it stood, five elderly persons came forward, with a solemn strut and dance, holding in their hands branches of a species of eugenia or jambu, and carrying offerings of rice and sweetmeats to the Nat. I could not learn the exact words of the incantation; but the substance of it was, that the demi-god was informed that a glorious prince, the descendant of great kings, presided at the present ceremony; that he, the demi-god, therefore, was requested to be propitious to it, to get the elephants quietly into the pen, and generally to lend his aid throughout the whole ceremony. About two-and-thirty female elephants, with their young included, were now driven into the inclosure: they were shortly followed by four male elephants, the riders of which had long ropes, with a noose at the end, in their hands. After many unsuccessful efforts, they succeeded at last in entangling the young elephant that was to be weaned, by the hind leg. This was a matter of great difficulty, for he was protected by the adroitness of the herd of female elephants which crowded round him for the purpose. When taken, he was a great deal more outrageous and obstreperous than the wild elephant caught yesterday. The large mounted elephants had to beat him frequently; and I observed, once or twice, that they raised him quite off the ground with their tusks, without doing him any material injury. The cry which he emitted on these occasions differed in no way but in degree from the squeak of a hog that is in pain or fear. He was ultimately confined in a small pen beyond one of the doors of the paddock, where two of the male elephants continued to watch

him. He was still very outrageous, and making violent efforts to extricate himself, but all to little purpose.*

The various modes of capturing wild elephants in India have undergone little variation for several centuries; and they are, more or less, practised in all parts of Asia where elephants are still required to maintain the splendour of Oriental luxury, — to assist in the pomp and administer to the pride of despotic monarchs; or, as is the case in our own Eastern establishments, to bear the heavy equipage of an Indian camp, or to labour in the peaceful occupations of transporting those articles of commerce, which are far too weighty to be moved by the power of the horse or the camel.

As civilization has advanced in India, the supply of wild elephants has necessarily diminished. In the time of Baber the herds were described as inhabiting 'the district of Kalpi; and the higher you advance from thence towards the east, the more do the wild elephants increase in number. That is the tract in which the elephant is chiefly taken. There may be thirty or forty villages in Karrah and Manikpûr that are occupied solely in this employment of taking elephants.' The learned translators of these memoirs, Dr Leyden and Mr Erskine, say, in a note to this passage, 'the improvement of Hindûstan since Baber's time must be prodigious. The wild elephant is now confined to the forests under Hemlâa, and to the Ghats of Malabar. A wild elephant near Karrah (Currah), Manikpûr, or Kalpi, is a thing, at the present day, totally unknown. May not their familiar existence in these countries, down to Baber's days, be considered as rather hostile to the accounts given of the superabundant population of Hindûstan

* Crawford's Embassy to Ava, p. 304.

in remote times.* In another passage Baber says, 'in the jungle round Chûnar there are many elephants;' — and the translators add, 'no wild elephants are ever found now in that quarter, or nearer than the hills.'† As we have before stated, the herds of wild elephants must be chiefly sought for in a depopulated country. Marco-Polo, speaking of the plain at the foot of the Yun-nan mountains, in China, says, 'The journey' (to the city of Mien, towards the confines of India,) 'occupies fifteen days, through a country much depopulated, and forests abounding with elephants, rhinoceroses, and other wild beasts, where there is not the appearance of any habitation.'‡ Thus, in the early part of the Mogul sway in India, when a dense population was collected round the courts of the native despots, while immense districts were almost exclusively possessed by the elephants, the numbers which were taken to be employed in war, or to swell the cumbrous pomp of such conquerors as Kublai Khan, and Timour, were almost incredible. Purchas says, 'William Clarke, which served the Mogul divers years in his wars, saith that he hath seen in one army twenty thousand elephants, whereof four thousand for war; the rest females for burthens, young, &c.§' Captain Hawkins, who was at Agra in 1607, says that Jehanghir had twelve thousand elephants. The Emperor Akbar *daily* gave presents of elephants. These accounts, however exaggerated they may seem, at least show that immense quantities of wild elephants must have been taken throughout India to maintain these enormous establishments. The introduction of fire-arms into warfare has rendered the elephant useless to an army, except for

* Memoirs of Baber, p. 315.

† Ib. p. 407.

‡ Marco Polo's Travels, by Marsden, p. 447.

§ Pilgrimage, book v, chap. 13.

transporting heavy burthens; — and the subjection of the most powerful of the native princes to the British dominion has overthrown much of that magnificent display in which the elephant performed so stately a part. The change, however, was not sudden, nor is it complete. The employment of the elephant is gradually ceasing, as the Oriental dynasties one by one fall before European skill, and as the manners of their courts, retaining little of the show and less of the substance of power, have yielded to the simpler forms of European authority. But even as recently as 1794 the Nabob of Oude went upon a hunting expedition with a thousand elephants; — and in our own days the glory of the Burman empire is as inseparably connected with the possession of the ‘white elephant,’ and its pomp as much displayed in elephant fights and elephant processions, as it was before the period when a handful of merchants established themselves upon the coasts of India, destined in little more than a century to overthrow the greater number of the native dynasties, by bringing the compact and ever-active power of the highest civilization into conflict with the scattered and inert force of semi-barbarous tyrannies, unchanging because uninstructed, oppressed by their own weight, and feeble through their own disunion.

When we consider the enormous strength of the elephant, which enables him to break through all ordinary means of confinement, and at the same time regard not only his ability to resist any violent attack, but his sagacity to elude any common stratagem, it must be evident that the business of his capture must be a task requiring equal courage and activity, — great skill and presence of mind in the individuals engaged in it, — and, when conducted upon a large scale; a combination of human force such as is seldom used except in the more prodigal game of war. A de-

scription, therefore, of the various modes in which this powerful animal is subjected to man must necessarily embrace many interesting details connected with the economy of the quadruped; and at the same time exhibit many traits of ingenuity and perseverance, as remarkable as any which are shown by the human mind in other extraordinary situations.

Pliny, describing the manner of capturing elephants in India, says, 'The hunter mounts on an elephant already tamed; — and when he meets with a wild one separated from the herd, he pursues it, and strikes it until it is so exhausted that he is able to leap from the one to the other, and thus to reduce the wild animal to obedience.*' This process is as summary as that which the Roman naturalist also notices as the practice of the Troglodytes, whom Diodorus Siculus by an expressive epithet describes as warring against the elephants. These are said to suspend themselves on the branches of trees under which the wild herd passes, and, slipping down over the crupper of a particular animal, to seize his tail with the one hand and ham-string him with the other. Although the elephant is destroyed by an experienced African marksman with much more precision than by this process of cutting his hams, he is certainly not reduced to obedience so quickly by the Indian hunters of the present day, as by those whom Pliny has described as bringing him into captivity. But the operation, however slow, is at least effective; — and the discipline does not require a constant repetition, as there is no doubt that the mere process of beating must have required, even if it could have been performed without danger. The various modes which are employed in India, and the adjacent islands, for keeping up the supply of elephants for domestic

* Nat. Hist. lib. viii, cap. 8.

use, are much more complicated than the Roman naturalist appears to have thought necessary; and these modes are followed up by a steady application of mild coercion, which at length effectually converts the unwieldy force of the huge quadruped into a machine, nearly as precise and obedient as one of those many ingenious inventions of modern times which have so greatly dispensed with the irregular movements of animal power.

The rudest mode of taking the elephant is by digging a pit in his native forests, which is covered over with loose boards and the boughs and grass upon which he feeds. This is mentioned as the custom of Ceylon a century ago;* — and the *Sieur Brue* describes this as the mode of taking the elephant, for his flesh, by the Africans of Senegal.† *Mr Williamson* states that in places where the natives find the elephants destructive neighbours, they dig a pit, covered with a slight platform of branches and grass, towards which the herd is seduced by a tame elephant, when the leading pursuer is precipitated into the trap, and the remainder retire in great alarm. This practice is evidently not very successful; — and we apprehend that the instinctive caution of the elephant not to tread upon any insecure ground must render it unavailing, except when his natural prudence gives way to the more powerful impulses of terror or desire. ‘The mode of getting elephants out of pits,’ according to *Mr Williamson*, ‘is somewhat curious, but extremely simple. The animal is for the most part retained until sufficiently tractable to be conducted forth; when large bundles of jungle-grass tied up into sheaves being thrown to him, he is gradually brought to the surface, at least to such

* *Recueil des Voyages de la Compagnie des Indes.*

† *Hist. Gen. des Voyages*, tom. ii.

an elevation as may enable him to step out.' The elephant will do the same if he is swamped in boggy ground, thrusting the bundles of grass and straw into the yielding earth with his heavy feet, and placing them so around him with his trunk that he at last obtains a firm footing. Pliny, who mentions the manner of taking elephants in pits, says, that the companions of the unfortunate animal who is thus captured will throw branches and masses of earth into the hole to assist his deliverance. This appears somewhat incredible; — but we are enabled to confirm, by an anecdote which has been published by Mr Pringle, the disposition of these animals to assist a suffering companion : —

‘In the year 1821, during one of my excursions in the interior of the Cape Colony, I happened to spend a few days at the Moravian Missionary settlement of Enon, or White River. This place is situated in a wild but beautiful valley, near the foot of the Zuurberg mountains, in the district of Uitenhage, and is surrounded on every side by extensive forests of evergreens, in which numerous herds of elephants still find food and shelter. From having been frequently hunted by the Boors and Hottentots, these animals are become so shy as scarcely ever to be seen during the day except among the most remote and inaccessible ravines and jungles; but in the night they frequently issue forth in large troops, and range in search of food, through the inhabited farms in the White River Valley; and on such occasions they sometimes revenge the wrongs of their race upon the settlers who have taken possession of their ancient haunts, by pulling up fruit trees, treading down gardens and corn-fields, breaking their ploughs, wagons, and so forth. I do not mean, however, to affirm that the elephants really do all this mischief from feelings of revenge, or with the direct intention of annoying

their human persecutors. They pull up the trees, probably, because they want to browse on their soft roots, and they demolish the agricultural implements merely because they happen to be in their way. But what I am now about to state assuredly indicates no ordinary intelligence. A few days before my arrival at Enon, a troop of elephants came down one dark and rainy night, close to the outskirts of the village. The missionaries heard them bellowing and making an extraordinary noise for a long time at the upper end of their orchard; but knowing well how dangerous it is to encounter these powerful animals in the night, they kept close within their houses till daylight. Next morning, on their examining the spot where they had heard the elephants, they discovered the cause of all this nocturnal uproar. There was at this spot a ditch or trench, about four or five feet in width, and nearly fourteen feet in depth, which the industrious missionaries had recently cut through the bank of the river, on purpose to lead out the water to irrigate some part of their garden ground, and to drive a corn mill. Into this trench, which was still unfinished and without water, one of the elephants had evidently fallen, for the marks of his feet were distinctly visible at the bottom, as well as the impress of his huge body on its sides. How he had got into it was easy to conjecture; but how, being once in, he had ever contrived to get out again, was the marvel. By his own unaided efforts it was obviously impossible for such an animal to have extricated himself. Could his comrades, then, have assisted him? There can be no question that they had — though by what means, unless by hauling him out with their trunks, it would not be easy to conjecture. And in corroboration of this supposition, on examining the spot myself, I found the edges of this trench deeply indented with numerous vestiges, as if the

other elephants had stationed themselves on either side, some of them kneeling and others on their feet, and had thus by united efforts, and probably after many failures, hoisted their unlucky brother out of the pit.'

However unfrequent may be such instances of intelligent compassion amongst elephants, it is undoubted that the sagacity of the animal enables him to perceive that he may escape from the perilous confinement of a deep pit, if he is supplied with the means of raising his enormous body nearly to the surface of the ground. A very curious anecdote, which not only illustrates this instinctive knowledge, but exemplifies the general exercise of the mental power of the 'half-reasoning' animal, is given in a recent work on zoology.*

'At the siege of Bhurtpore in the year 1805, an affair occurred between two elephants, which displays at once the character and mental capability, the passions, cunning, and resources of these curious animals. The British army, with its countless host of followers and attendants, and thousands of cattle, had been for a long time before the city, when, on the approach of the hot season, and of the dry hot winds, the supply of water in the neighbourhood of the camps necessary for the supply of so many beings began to fail; the ponds or tanks had dried up, and no more water was left than the immense wells of the country would furnish. The multitude of men and cattle that were unceasingly at the wells, particularly the largest, occasioned no little struggle for the priority in procuring the supply for which each were there to seek, and the consequent confusion on the spot was frequently very considerable. On one occasion, two elephant drivers, each with his elephant, the one

* Cuvier's Animal Kingdom, by Griffiths, vol. iii, p. 376.

remarkably large and strong, and the other comparatively small and weak, were at the well together; the small elephant had been provided by his master with a bucket for the occasion, which he carried at the end of his proboscis; but the larger animal being destitute of this necessary vessel, either spontaneously or by desire of his keeper, seized the bucket, and easily wrested it away from his less powerful fellow-servant: the latter was too sensible of his inferiority, openly to resent the insult, though it is obvious that he felt it; but great squabbling and abuse ensued between the keepers. At length, the weaker animal, watching the opportunity when the other was standing with his side to the well, retired backwards a few paces in a very quiet, unsuspecting manner, and then rushing forward with all his might, drove his head against the side of the other, and fairly pushed him into the well.

‘It may easily be imagined that great inconvenience was immediately experienced, and serious apprehensions quickly followed, that the water in the well, on which the existence of so many seemed in a great measure to depend, would be spoiled, or at least injured by the unwieldy brute which was precipitated into it; and as the surface of the water was nearly twenty feet below the common level, there did not appear to be any means that could be adopted to get the animal out by main force, at least without injuring him: there were many feet of water below the elephant, who floated with ease on its surface, and experiencing considerable pleasure from his cool retreat, evinced but little inclination even to exert what means he might possess in himself of escape.

‘A vast number of fascines had been employed by the army in conducting the siege, and at length it occurred to the elephant keeper, that a sufficient number of these (which may be compared to bundles

of wood) might be lowered into the well to make a pile, which might be raised to the top, if the animal could be instructed as to the necessary means of laying them in regular succession under his feet. Permission having been obtained from the engineer officers to use the fascines, which were at the time put away in several piles of very considerable height, the keeper had to teach the elephant the lesson, which by means of that extraordinary ascendancy these men attain over the elephants, joined with the intellectual resources of the animal itself, he was soon enabled to do, and the elephant began quickly to place each fascine as it was lowered to him, successively under him, until in a little time he was enabled to stand upon them; by this time, however, the cunning brute, enjoying the pleasure of his situation, after the heat and partial privation of water to which he had been lately exposed, (they are observed in their natural state to frequent rivers, and to swim very often,) was unwilling to work any longer, and all the threats of his keeper could not induce him to place another fascine. The man then opposed cunning to cunning, and began to caress and praise the elephant, and what he could not effect by threats he was enabled to do by the repeated promise of plenty of rack. Incited by this the animal again went to work, raised himself considerably higher, until, by a partial removal of the masonry round the top of the well, he was enabled to step out: the whole affair occupied about fourteen hours.'

In Nepaul, and in the countries bordering on the northern frontiers of India, where the elephants are of a small size, they are often captured by the natives with a *phaun*, or slip-knot. This practice has some analogy with the custom of taking horses with the *lasso*, in the Pampas. The hunter, seated on a docile elephant, round whose body the cord is fastened,

singles out one from the wild herd ; and cautiously approaching, throws his pliable rope in such a manner that it rests behind the ears, and over the brows of the animal pursued. He instinctively curls up his trunk, making an effort to remove the rope ; which, with great adroitness on the part of the hunter, is then passed forward over the neck. Another hunter next comes up, who repeats the process ; and thus the creature is held by the two tame elephants, to whom the *phauns* are attached, till his strength is exhausted. It would appear quite impossible to take a large elephant in this manner ; although, with those of a peculiarly small breed, the operation does not appear more difficult than that of securing the wild horse or the buffalo in the plains of South America.*

It is remarkable, that in every mode of capturing the wild elephant, man avails himself of the docility of individuals of the same species, which he has already subdued. Birds may be taught to assist in ensnaring other birds ; but this is simply an effect of habit. The elephant, on the contrary, has an evident desire to join its master in subduing its own race ; and in this treachery to its kind, exercises so much ingenuity, courage, and perseverance, that we cannot find a parallel instance of complete subjection to the will of him to whom it was given to ‘have dominion over the fish of the sea, and over the fowl of the air, and over every living thing that moveth upon the earth.’

From some peculiar circumstances which have not been accurately explained, large male elephants are sometimes found apart from the herd. Sir Stamford Raffles says, speaking of the elephants that he met with in his journey through the southern Presidencies

* See Williamson's *Sports*, p. 39.

to Passumah, 'The natives fancy that there are two kinds of elephants,—the *gaja berkampong*, those which always go in herds, and which are seldom mischievous, and the *gaja salunggal*, or single elephants, which are much larger and ferocious, going about either singly or only two or three in company. It is probable the latter kind are only the full-grown males.* They probably, in many cases, separate themselves from their companions in search of fresh pastures. But as they are sometimes found in a state of considerable irritation, doing much mischief wherever they pass, it has been thought that these have been driven away by the stronger males, and that they are suffering all the agonies of unavailing jealousy. Being the finest elephants, and therefore the best adapted for sale, the hunters soon mark them for their own. They follow them cautiously by day and by night, with two, and sometimes four trained females, called *Koomkies*. If it be dark they can hear the animal striking his food, to clean it, against his fore legs, and they then approach tolerably close ;—if light, they advance more cautiously. The females gradually move towards him, apparently unconscious of his presence, grazing with great complacency, as if they were, like him, inhabitants of the wild forest. It is soon perceived by them whether he is likely to be entrapped by their arts. The drivers remain concealed at a little distance, while the *koomkies* press round the unhappy *goondah*, or *saun*, (for so this sort of elephant is called). If he abandon himself to the caresses of his new companions, his capture is almost certain. The hunters cautiously creep under him, and during the intoxication of his pleasure, fasten his fore-legs with a strong rope. It is said that the wily females

* Sir Stamford Raffles' Life and Correspondence. p. 315.



Wild Elephant captured by means of decoy Female Elephants.

will not only divert his attention from their *mohouts*, but absolutely assist them in fastening the cords. Mr Howitt made a spirited drawing of this curious scene, from the descriptions of Captain Williamson.

The hind-legs of the captive being secured in a similar manner, the hunters leave him to himself, and retire to a short distance. In some cases he is fastened at once to a large tree, if the situation in which he is first entrapped allows this. But under other circumstances, in the first instance his legs are only tied together. When the females quit him he discovers his ignominious condition, and attempts to retreat to the covert of the forest. But he moves with difficulty, in consequence of the ropes which have been lashed round his limbs. There are long cables trailing behind him; and the *mohouts*, watching an opportunity, secure these to a tree of sufficient strength. He now becomes furious, throwing himself down, and thrusting his tusks into the earth. If he break the cables, and escape into the forest, the hunters dare not pursue him; but if he is adequately bound, he soon becomes exhausted with his own rage. He is then left to the further operation of hunger, till he is sufficiently subdued to be conducted, under the escort of his treacherous friends, to an appointed station, to which, after a few months' discipline, he becomes reconciled.*

In the kingdom of Ava all the elephants are caught by decoy females, though the process is somewhat different from that practised by the Koomkies of British India. Mr Crawford informs us that the King of Ava 'is possessed, in all, of about one thousand elephants, divided into two classes: those which are thoroughly broken in and tamed, consisting prin-

* See Williamson's Sports; — and Mr Corse's paper in the Asiatic Transactions, vol. iii.



Wild Elephant left after having been bound.

cipally of males; and those that are employed as decoys, all females, and in a half-wild state.' These decoys are generally kept in the neighbourhood of forests frequented by elephants; — and when the herd is joined by a wild male, they are all driven into the capital, to a place called the elephant palace, 'appropriated for exhibiting, for the king's diversion, the taming of the wild male elephant. This place is a square inclosure, surrounded everywhere by a double palisade, composed of immense beams of teak timber, each equal in diameter to the main-mast of a four-hundred-ton ship. Between the palisades there is a stone wall, about fourteen feet high and twenty thick. On the top of this the spectators are seated to view the sport. . . . The inclosure has two entrances; the gates of which are composed of beams, which can be moved at the bottom by means of ropes.' We shall extract Mr Crawford's amusing description of the scene which took place in this enclosure: —

'A cloud of dust announced the approach of the elephants, about twenty in number: these, with the exception of the captive, were all females, several of them with their young following them. A few of the best broken-in only were mounted. Partly by persuasion, and partly by force, these were seen driving before them a small male elephant, not, as we were told, above thirteen years old: it required at least half an hour to induce him to enter the gate of the inclosure. A very docile female elephant led the way, conducted by her keeper; but the half-tamed females were nearly as reluctant to enter as the wild male himself; they went five or six times half-way in before they were finally entrapped; and, twice over, the male had run off to the distance of a quarter of a mile from the inclosure, but was again brought back by the females.

‘The elephants having entered, we were requested to come into the king’s presence, in which situation we should have a better view of the sport. We walked round accordingly by the southern and eastern angles of the inclosure, and seats were assigned to us in the same line with, and next to the princess; not only the most distinguished, but the most convenient situation. We made a bow, as before, and the sport went on. From the smallness of the elephant, there was neither much danger nor amusement in it. The females were withdrawn from the inclosure, one by one; and then the elephant-catchers, who are a distinct race, went into the square unarmed, and provoked the wild elephant to pursue them, which he did with great fury. The keepers took shelter from his pursuit within the palisade, through the apertures of which he lashed his trunk in vain. The elephant-keepers exhibited much boldness and agility; but, from what we saw, I should conceive that they ran very little risk. Accidents, however, sometimes occur. A few years ago, one of the hunters, when pursued by the elephant, tripped and fell; he was killed on the spot by the enraged animal. The king, who was present when this happened, immediately retired, the sight of blood not being fit for him to behold, either as a sovereign, or a votary of Guatama.

‘Some goats were put into the square, and these were pursued by the elephant in the same way as the keepers, and with as little effect. These animals eluded his pursuit with the utmost ease; and were so little concerned at his presence, that they soon began to quarrel amongst themselves. When the elephant was sufficient tired, three huge tame male elephants were brought in to secure him, each mounted by his keeper, who had in his hand a rope with a noose, which one of them, after the second or

third effort, succeeded in casting round the fore leg. The animal made comparatively very little resistance, appearing to be quite subdued by the presence of his three powerful antagonists, who, after the noose was fixed, drove him by main force into a pen at the south side of the inclosure, from which he was afterwards withdrawn, and tied to a post by a comparatively slender rope put round his neck, through his mouth, and round his tusks. We saw him in this situation, under a shed, as we were returning home, very restless and sullen. He was so closely tied to the post that he could scarcely move, and had no power to do any mischief. We were told by the keepers, that the male elephants, when thus secured, refuse food for about five days. It takes six or seven months to tame them effectually, and occasionally as much as a whole year, for their dispositions are various.*

Knox's account of the mode of taking elephants in Ceylon presents a great similarity to Mr Crawford's narrative of the practice in Ava. He says, 'Though there be many in the woods, yet but few have teeth, and they males only. Unto these they drive some she-elephants, which they bring with them for the purpose; which when once the males have got a sight of, they will never leave, but follow them where-soever they go; and the females are so used to it, that they will do whatsoever is wished, either by a word or a beck, their keepers bid them: and so they delude them along through towns and countries, through the streets of the city, even to the very gates of the king's palace; where sometimes they seize upon them by snares, and sometimes, by driving them into a kind of pound, they catch them.'† But

* Embassy to Ava, p. 299.

† Historical Relation of Ceylon, chap. vi.

the present mode of catching elephants in Ceylon is upon a large scale, such as is practised in Bengal, and consists in driving whole herds of these animals into a vast enclosure, called in Hindostan a *Keddah*. In ancient times, according to Pliny, elephants were chased by horsemen into a narrow defile, of which one end was closed up, and here they were detained till they were subdued by hunger. The present practice of the East has been pursued with little variation, for many centuries. Arrian gives a minute account of the mode of taking wild elephants in his own time. The natives, he says, dig a deep ditch round a large open space, into which the herd passes over a bridge. Their escape is then prevented by the removal of the bridge; — they are here kept till they are sufficiently starved and exhausted, when they are captured by tame elephants.* Fourteen hundred years after, the sultan Akbar, on his return to his capital (Agra) from the kingdom of Chandez in the Deccan, ‘upon the way, near the village of Sipiri, fell in with a great herd of wild elephants. He ordered his cavalry to surround them, and he drove them, with great difficulty, into a fold constructed for that purpose; one of the male elephants, of a prodigious size, finding himself confined, strode over the ditch, bore down the wall and the palisadoes before him, and made his way into the plain. Three trained elephants were sent after him: he stood to fight, and before they could overcome and take him, he afforded very great diversion to the king, who was remarkably fond of the boisterous contention of those enormous animals.’† The large elephant-hunts of modern times are systematically carried on by the government; and the whole operation is conducted upon a scale of

* Indian History, chap. xii.

† Dowe’s Hindostan, vol. ii, p, 242.

splendour which leaves all other hunting, even that of the bear in Sweden, at an immeasurable distance.

The magnificent scene of a great elephant hunt, where many thousand people are assembled, to drive a herd of these superb animals for miles with the clang of drums and trumpets, and the din of fireworks and musketry, is depicted by Mr Corse with great felicity:* —

‘When a herd is discovered, about three hundred people are employed to surround it, who divide themselves into small parties, consisting generally of three men each, at the distance of twenty or thirty yards from each other, and form an irregular circle, in which the elephants are enclosed; each party lights a fire and clears a foot-path to the station that is next him, by which a regular communication is soon formed through the whole circumference from one to the other. By this path reinforcements can immediately be brought to any place where an alarm is given; and it is also necessary for the superintendents, who are always going round to see that the people are alert upon their posts. The first circle being thus formed, the remaining part of the day and night is spent in keeping watch by turns, or in cooking for themselves and companions. Early next morning one man is detached from each station, to form another circle in that direction where they wish the elephants to advance. When it is finished, the people stationed nearest to the new circle put out their fires, and file off to the right and left, to form the advanced party; thus leaving an opening for the herd to advance through, and, by this movement, both the old and new circle are joined, and form an oblong. The people from behind now begin shouting, and making a noise with their rattles, drums,

* Asiatic Transactions, vol. iii.

&c, to cause the elephants to advance; and, as soon as they are got within the new circle, the people close up, take their proper stations, and pass the remaining part of the day and night as before. In the morning the same process is repeated, and in this manner the herd advances slowly in that direction where they find themselves least incommoded by the noise and clamour of the hunters, feeding, as they go along, upon branches of trees, &c. If they suspected any snare, they could easily break through the circle; but this inoffensive animal, going merely in quest of food, and not seeing any of the people who surround him, and who are concealed by the thick jungle, advances without suspicion, and appears only to avoid being pestered by their noise. As fire is the thing elephants seem most afraid of in their wild state, and will seldom venture near it, the hunters always have a number of fires lighted, and particularly at night, to prevent the elephants coming too near, as well as to cook their victuals and to keep them warm. The sentinels supply these fires with fuel, especially green bamboos, which are generally at hand, and which, by the crackling and loud report they make, together with the noise of the watchmen, deter the elephants from coming near; so that the herd generally remains at a distance, near the centre of the circle. Should they at any time advance, the alarm is given, and all the people immediately make a noise and use their rattles, to make them keep at a greater distance. In this manner they are gradually brought to the *Keddah*, or place where they are to be secured.'

The *keddah*, towards which their course is thus directed, is an immense inclosure, sometimes circular and sometimes triangular, formed of huge upright and transverse beams, and terminating in a second or even a third inclosure, of smaller dimen-

sions, but similar strength. At Tipperah the keddah described by Mr Corse consisted of three inclosures. Whether there be two or three of these great pens, which the mightiest force of the elephant is unable to break down, the one in which the herd is last driven has a narrow outlet, allowing room for the passage of one elephant only at a time. The principal difficulty is to persuade the herd to enter their destined prison. Although the palisade is concealed, and many precautions are taken to divest the entrance of any terrific appearance, the leader often hesitates; and the whole herd rush back upon their pursuers. If they disperse, the circles of men have again to be formed, and the tedious operation of driving them slowly onwards is necessarily repeated. If the leader, however, enter the gateway, the whole herd implicitly follows. We continue Mr Corse's description : —

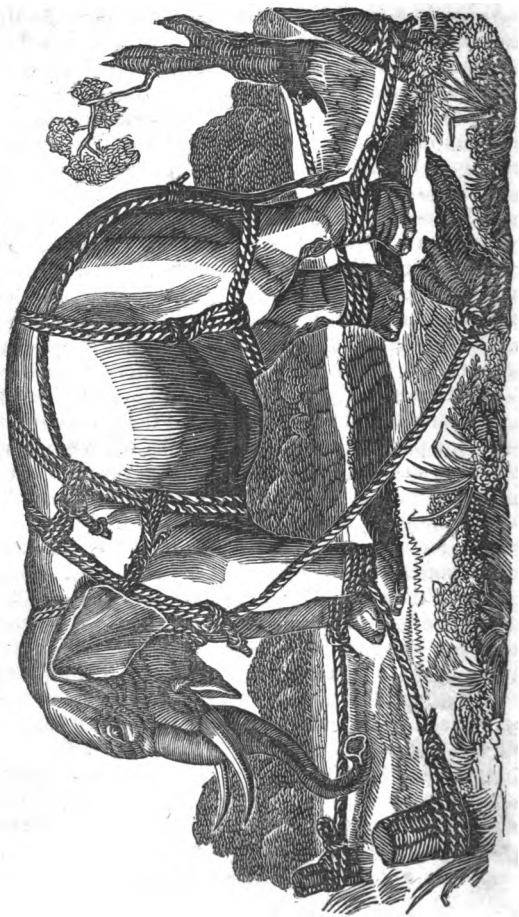
‘Immediately when they are all passed the gateway, fires are lighted round the greatest part of the inclosure, and particularly at the entries, to prevent the elephants from returning. The hunters from without then make a terrible noise, by shouting, beating of drums, firing of blank cartridges, &c, to urge the herd on to the next inclosure. The elephants, finding themselves ensnared, scream and make a noise ; but seeing no opening except the entrance to the next inclosure, and which they at first generally avoid, they return to the place through which they lately passed, thinking, perhaps, to escape, but now find it strongly barricaded ; and as there is no ditch at this place, the hunters, to prevent their coming near, and forcing their way, keep a line of fire constantly burning all along where the ditch is interrupted, and supply it with fuel from the top of the palisade, and the people from without make a noise, shouting and hallooing, to drive them away. Where-

ever they turn, they find themselves opposed by burning fires, or bundles of reeds and dried grass, which are thrust through the openings of the palisades, except towards the entrance of the second inclosure. After traversing the first inclosure, and finding no chance of escaping but through the gateway into the next inclosure, the leader enters, and the rest follow; the gate is instantly shut, by people who are stationed on a small scaffold immediately above it, and strongly barricaded; fires are lighted, and the same discordant din made and continued, till the herd has passed through another gateway into the last inclosure, the gate of which is secured in the same manner as the former was. The elephants being now completely surrounded on all sides, and perceiving no outlet through which they can escape, appear desperate, and in their fury advance frequently to the ditch, in order to break down the palisades, inflating their trunks, screaming louder and shriller than any trumpet, sometimes grumbling like the hollow murmur of distant thunder, but wherever they make an attack they are opposed by lighted fires, and by the noise and triumphant shouts of the hunters. As they must remain some time in this inclosure, care is always taken to have part of the ditch filled with water, which is supplied by a small stream, either natural, or conducted through an artificial channel from some neighbouring reservoir. The elephants have recourse to this water to quench their thirst after their fatigues, by sucking the water into their trunks, and then squirting it over every part of their bodies. While they remain in this inclosure they continue sulky, and seem to meditate their escape; but the hunters build huts around them close to the palisade, watchmen are placed, and every precaution used to prevent their breaking through.

‘ When the herd has continued a few days in the *keddah*, the door of the outlet is opened, into which some one of the elephants is enticed to enter, by having food thrown first before, and then gradually farther on into the passage till the elephant has advanced far enough to admit of the gates being shut. Above this wicker gate two men are stationed on a small scaffold, who throw down the food. When the elephant has passed beyond the door, they give the signal to a man, who, from without, shuts it by pulling a string, and they secure it by throwing two bars that stood perpendicular on each side, the one across the other, thus X, and then two similar bars are thrown across each other behind the door next to the *keddah*, so that the door is in the centre. For farther security, horizontal bars are pushed across the outlet, through the openings of the palisades, both before and behind those crosses, to prevent the possibility of the doors being broken. The outlet is so narrow, that a large elephant cannot turn in it; but as soon as he hears the noise that is made in shutting the gate, he retreats backwards, and endeavours to force it; being now secured in the manner already noticed, his efforts are unavailing. Finding his retreat thus cut off, he advances and exerts his utmost force to break down the bars, which were previously put across a little farther on in the outlet, by running against them, screaming and roaring, and battering them like a ram, by repeated blows of his head, retreating and advancing with the utmost fury.’*

In this confinement the elephant exhausts himself with fatigue. Strong ropes with nooses are spread about him; and as soon as he puts a foot within the snare, he is bound to the palisade. When all his feet

* Asiatic Transactions, vol. iii.

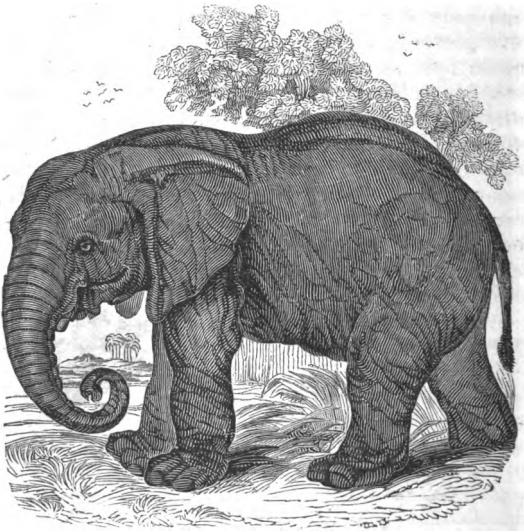


Elephant harnessed in a keddah. From an original drawing, by Mr Corse Scott, engraved in Brewster's *Encyclopædia*.

have thus been made fast, his hind legs are tied together; his body is then surrounded in various directions with powerful ropes, which are secured so as to form a complete harness. A couple of large cables, with running nooses, are lastly put round his neck, and are tied to the ropes on each side. The preparations being complete, the cables are made fast to two tame elephants. The heavy door at the end of the passage is opened, the ropes that tied his legs to the palisades are loosened, and he is conducted by his powerful brothers to an open spot, where he is made fast, in a similar way, between two trees. When his subjugated brethren leave him, to conduct another to his place of captivity, his rage becomes fearful. He roars in an agony of despair; he tramples the food which is given him under his feet. He sometimes falls a victim to his paroxysm of fury; but more commonly the cravings of hunger induce him to eat, and he gradually yields to the power of gentle discipline.

CHAPTER V.

The African Elephant. Elephant Hunts.



*African Elephant. Elephas Africanus Cuvier.**

BEFORE the settlements of the Portuguese on the coasts of Africa, in the latter part of the fifteenth century, the elephant ranged without much interrup-

* From an elephant in the Menagerie of the Jardin des Plantes, 1829.

tion, on the banks of the great rivers, whose courses, even at our own days, have not been completely traced. In the plains of the kingdom of Congo, where the herbage attains a wild luxuriance amidst innumerable lakes, and on the borders of the Senegal, whose waters run through extensive forests, herds of elephants had wandered for ages in security. The poor African, indeed, occasionally destroyed a few stragglers, to obtain a rare and luxurious feast of the more delicate parts of their flesh; and the desire for ornament, which prevails even in the rudest forms of savage life, rendered the chiefs of the native hordes anxious to possess the tusk of the elephant, to convert it into armlets and other fanciful embellishments of their persons. Superstition, too, occasionally prompted the destruction of this powerful animal; for the tail of the elephant had become an object of reverence, and therefore of distinction to its possessor: and the huntsman, accordingly, devoted himself, with as much ferocity as the hyæna-dog that knaws off the tail of the ox and the sheep during their unprotected repose,* to steal upon the unsuspecting elephant in his pasture, and to cut off his tail with a single stroke of his rugged hatchet.† But these were irregular and partial incentives to the destruction of the most mighty, and, at the same time, the most peaceful inhabitant of the woods. The steady and inexorable demands of commerce had not yet come to the shores of Africa, to raise up enemies to him in all the tribes amongst whom he had so long lived in a state of comparative security. The trade in ivory had been suspended for more than a thousand years. There were periods, indeed, in

* See Menageries, vol. i, p. 125.

† Voyage de Merolla, quoted in *Histoire Generale des Voyages*, tom. v, p. 79.

the history of the refined nations of antiquity, when this destruction of the elephant was as great as in modern times: — when Africa yielded her tributes of elephants' teeth to the kings of Persia;* when the people of Judæa built 'ivory palaces;† when the gallies of Tyre had 'benches of ivory;‡ when, contributing to the barbarous luxury of the early Grecian princes,

‘The spoils of elephants the roofs inlay;’§

when the Etruscan attributes of royalty were sceptres and thrones of ivory;|| when the ancient kings and magistrates of Rome sat in ivory seats;¶ when colossal ivory statues of their gods, far exceeding, in their vast proportions and their splendid ornaments, all the magnificence of the moderns, were raised by the Greeks of the age of Pericles; and when immense stores of ivory, to be employed with similar prodigality, were collected in the temples.** In the time of Pliny, the vast consumption of ivory for articles of luxury had compelled the Romans to seek for it in another hemisphere; Africa had ceased to furnish elephants' tusks, except of the smallest kind.†† A century or two earlier, according to Polybius, ivory was so plentiful in Africa, that the tribes on the confines of Ethiopia employed elephants' tusks as door-posts, and for the palisades that enclosed their fields.‡‡ When the Roman power fell into decay, and the commerce of Europe with Africa was nearly suspended for centuries, the elephant was again unmolested in those regions. He was no

* Herodotus, Thalia. *Elephant's teeth* is the name in commerce for what are more accurately called *défenses* or *tusks* — the substance of ivory.

† Psalm xlv, 8. ‡ Ezek. xxvii, 6. § Odyssey, lib. iv, v, 73.

|| Dionys. Halicar., lib. iii, cap. 18. ¶ Ibid, lib. v, cap. iv.

** Cicero de Signis, par. 46. †† Hist. Nat., lib. viii, cap. 2.

‡‡ See Plin., lib. viii, cap. 10.

longer slaughtered to administer to the pomp of temples, or to provide ornaments for palaces. The ivory tablets of the citizens of ancient Rome (*libri elephanti*) had fallen into disuse; and the toys of modern France were constructed of less splendid materials.* At Angola, elephants' teeth had become so plentiful, because so useless as an article of trade, that in the beginning of the seventeenth century, according to Andrew Battell, an Englishman, who served in the Portuguese armies, the natives 'had their idols of wood in the midst of their towns, fashioned like a negro, and at the foot thereof was a great heap of elephants' teeth, containing three or four tons of them: these were piled in the earth, and upon them were set the skulls of dead men, which they had slain in the wars, in monument of their victory.'† The people of Angola and Congo, when the Portuguese first established themselves there, were found to have preserved an immense number of elephants' teeth, for centuries, and had applied them to such superstitious uses. As long as any part of the stock remained, the vessels of Portugal carried large quantities to Europe; and this traffic formed one of the most profitable branches of the early trade with Africa.‡ About the middle of the seventeenth century the store was exhausted. But the demand for ivory which had been thus renewed in Europe, after the lapse of so many centuries, offered too great a temptation to the poor African to be allowed by him to remain without a supply. The destruction of elephants for their teeth was again unremittingly pursued throughout those extensive forests; and that

* Dieppe has been for several centuries the great manufactory of ivory ornaments.

† Purchas, book vii, chap. 9.

‡ See Hist. des Voyages, vol. v, p. 79.

havoc has gone on with little, if any, diminution, to our own day.

It would be exceedingly difficult to estimate with any pretension to accuracy the present consumption of ivory in Europe. Its use must have been considerably diminished, on the one hand, by the changes of taste, which have dispensed with the ivory beds, and ivory chairs, that adorned the palaces of princes in the age of Leo X; and have displaced the inlaid tables and cabinets of a century later, by articles of furniture distinguished rather for the excellence of their workmanship than for the cost of their material. But, on the other hand, the increase of comforts and luxuries amongst the middle classes of society, and the love of tasteful ornament which has descended from the palace to the cottage (one satisfactory symptom of intellectual advancement) has probably increased the consumption of ivory in smaller articles. We understand that at Dieppe there are at present eleven flourishing manufactories of articles in ivory, from which various specimens of art, from the commonest piece of turnery to the most elaborate carving, are dispersed throughout the continent. Much is employed for crucifixes, and other appendages of Roman Catholic worship. In our own country the demand for elephants' teeth, to be employed in the manufacture of musical instruments, plates for miniatures, boxes, chess-men, billiard-balls, mathematical rules, and small pieces of carving,* is much more consid-

* Works in ivory have hitherto been executed as *carving*, in which art the eye alone is depended on for accuracy, and false strokes are irremediable. However great the abilities of the artist, he has never been able to produce any results so satisfactory as those of the modeller, because his material is not plastic; or as those of the sculptor, because hitherto he has had no model to work from: and he does not, even in the case of his making a

erable than might occur to a superficial observation. In 1827, the Customs upon elephants' teeth, the duty being 20s per cwt, amounted to 3,257*l*, exhibiting an importation of 364,784 lbs.* In eleven years, from 1788 to 1798, 18,914 cwt of ivory was imported, which shows an average annual importation of 192,579 lbs. The consumption, therefore, is either increased in Great Britain, or, from our possession of the colony of the Cape of Good Hope, we are enabled to supply the demands of foreign nations.

The average weight of an elephant's tusk is about 60 lbs. To have produced, therefore, 364,784 lbs of ivory, the import of 1827, 6080 tusks must have been procured. This fact assumes the annual slaughter of at least 3040 elephants. But the real havoc is much greater. Mr Burchell, in his travels in Africa, met with some elephant hunters, who had shot twelve elephants, which, however, produced no more than two hundred pounds weight of ivory, as all the animals, excepting one, happened to be females.† If anything like the

copy, avail himself of those mechanical helps, or adopt those methods of producing a faithful copy, which are peculiar to the art of statuary. Mr John Isaac Hawkins, the inventor of several ingenious articles (the ever-pointed pencil, for instance), has therefore proposed, that works of regular, though miniature sculpture, should be wrought in ivory, by similar rules and methods by which marble statuary is rendered the exact counter-part of the original model, but modified to the circumstances of the case by peculiar means which he has invented. By adopting this new process, Mr Cheverton has succeeded in producing miniature copies of busts with extreme accuracy. We have seen a most exquisite copy in ivory, thus executed, of Nollekens's bust of the Duke of Wellington; as well as another of the Townley Isis, in which the markings of the nails were scarcely perceptible to the naked eye, from their extreme delicacy, but were found perfectly accurate, when examined by the microscope.

* See Companion to Alm. 1830.

† Travels in Southern Africa, vol. i, p. 481.

same ill-luck, or want of skill, attended all the African elephant hunters, upwards of forty thousand of these animals would be annually slain to supply our demand for ivory baubles. But this circumstance is, of course, an extraordinary one; and we only mention it to show the necessary waste of elephant life, in the supply of our commercial wants.

There is a peculiarity in the commerce of elephants' teeth, which forcibly arrests the imagination. Ivory is not an article of paramount necessity. The fine marbles would answer the purposes of statuary better, even if the ancient art of sculpture in ivory were restored; and the harder woods are quite as useful in the manufacture of furniture. It is required only for ornaments which are by no means suited to every taste; for modern Europeans have not a passion for ivory, as the Romans are said, by M. de Caylus, to have had.* And yet the demand in this country, of which we hear and see little, gives activity to whole tribes of Africans;—makes elephant-hunting a trade;—exposes man, as we shall presently show, to the most appalling dangers, and the severest privations;—and spreads terror amongst thousands of these unoffending animals, who appear to have a natural right, which they have enjoyed from the creation, to the immense savannas upon which they pasture. Mr Pringle, whose description of a herd of elephants we have already given, speaking of the inclinations of his companions to attack this herd, which desire was suppressed by a feeling of the danger, says, 'When I looked around on these noble and stately animals, feeding in quiet security in the depth of this secluded and picturesque valley, too peaceful to injure, too powerful to dread any other living creature, I felt that it would be almost a

* Mem. de l'Académie des Inscriptions.

sort of sacrilege to attempt their destruction in sheer wantonness, merely to furnish sport to the great destroyer, man; and I was glad when it was unanimously agreed to leave them unmolested.' These, however, are not the feelings of the Hottentot who shoots the 'noble and stately' beast, nor of the boor who carries his teeth to the coast, nor of the factor who buys them. It is not to be expected, nor perhaps is it desirable, that they should so feel. In his relations to the inferior animals, man must every hour harden his heart. It is his duty to abstain from every wanton or cruel sacrifice; — but the great economy of nature is, perhaps, as much carried on by the power and the will of man to destroy every creature that can conduce to his necessities, or even his most artificial wants, as the relations between the animal and the vegetable world are maintained by the constant interchange of destruction that goes forward amongst the insect race; — for every shrub attracts its peculiar enemy, and that enemy in his turn becomes a victim to one more adroit or more powerful than himself.

The English, in the sixteenth century, used to trade for ivory on the coast of Guinea. While the Portuguese retained their domination on the African shores, this sort of commerce was extremely irregular, being principally carried on by merchant vessels that obtained elephants' teeth, in small quantities, from the scattered negroes.* Our growing maritime superiority, and our colonial establishments in Southern Africa, have now given to this trade the ordinary precision of other commercial operations. The great mart for ivory is Cape Town; — and thither the Hottentots resort to exchange ivory and cattle for gunpowder, muskets, knives, tobacco, and

* See Towtson's Voyage, 1555, in Hakluyt's Collection.

clothing. Mr Burchell saw a party of twenty men, with a train of women and children, that had brought about a thousand pounds weight of elephants' teeth to Cape Town, thus to barter for manufactured articles.* In the interior he met with a Hottentot who had bought twenty elephants' tusks of the Bachapins, at the rate of a sheep for a tusk. These people offered to Mr Burchell himself, two oxen, and two elephants' tusks (each of which was too heavy to be carried by one man), in exchange for a gun. The Bichuana nations (Bachapins), whose forests abound with elephants, conduct their trade in elephants' teeth principally by barter with the Hottentots. There is no regulated trade in ivory; and Mr Burchell urges the establishment of a joint-stock company for carrying on this profitable commerce, by means of caravans, with these people. They are far enough removed from civilization to furnish ivory in abundance. The elephants and the poor savages share the forests. It is a necessary condition of the commerce in ivory, that the European must penetrate farther and farther into the wilds to search for it. Ivory was once common enough on the coasts of Loango; but in a century or so the negroes had to bear it three hundred miles on their heads to the European market.† When Thunberg travelled in Caffraria, in 1773, he saw an elephant hunter, who told him that he had shot twelve elephants in a day, close to Cape Town. It would be now difficult to find a herd within many miles. Wild elephants, however, sometimes approach very near to the abodes of man. In the year 1700, an immense elephant quietly walked into the town of Mina, on the Gold Coast: and paid so little attention to the shots which

* Vol. i, p. 154.

† Hist. Gen. des Voyages, tom. iv, p. 592.

were fired at him, that, having entered the Dutch garden, he began to pull up the cocoa-trees with the greatest complacency, amidst a shower of balls. The negroes thought he would bear any thing—and one unhappy man laid hold of his tail. The elephant turned round in an instant, thrust his tusks through the negro's body, and trampled him to pieces; although he suffered the carcase to be taken away, without offering any interruption. He fell at last, covered with wounds; but he did not utter a cry till his trunk was cut off, and then his roars were fearful.* Such an appearance of an elephant in a populous neighbourhood is now very rare; and thus the supply of ivory is gradually growing scarcer,—or at least there are greater difficulties presented to its collection. The unbounded influence of commercial wealth in calling forth every energy, whether of civilized or uncivilized man, will, however, ensure the destruction of the elephant, as long as his teeth are an object of desire;—and such is the capriciousness of our artificial wants, that the more difficulty there may be in obtaining ivory, the more eagerly will it be coveted. The growing scarcity of elephants' teeth will probably solve the problem, whether elephants still inhabit the range of the Atlas mountains, as they did in the time of Pliny.

In those districts of Africa, where the supply of animal food is precarious, the elephant is naturally an object of pursuit for his flesh. The negroes who hunt him for this purpose are ill-provided with arms or ammunition;—and they, therefore, incite his fury towards one or more of their number, while the rest hamstring him. Major Denham saw a victim of this butchery. He says, 'the whole of the next day the road, leading to the spot where he lay, was like a

* See Bosman's Guinea.

fair, from the number who repaired thither for the sake of bringing off a part of the flesh, which is esteemed by all, and even eaten in secret by the first people about the sheikh: it looks coarse, but is better flavoured than any beef I found in the country.* *Le Vailant* feasted on the foot of an elephant with extraordinary relish. 'It was a dish for a king,' according to this enthusiastic traveller. 'Never have our modern *Luculluses*,' says he, 'been able to produce on their table such a dish as that I have before me. In vain their gold reverses the order of the seasons;—in vain they lay every country under contribution;—their luxury has not reached this point—there are bounds to their sensual cupidity.† The epicures of Rome, however, to whom inordinate expense was a matter of the utmost indifference, made a dish of the cartilage of the trunk of the elephant. Pliny says, 'they fancied they were eating ivory.‡ The Abyssinians, according to Bruce, destroy the elephant for food. 'They cut the whole of the flesh off his bones into thongs, like the reins of a bridle, and hang these like festoons upon the branches of trees, till they become perfectly dry, without salt; and then they lay them up for their provisions in the season of the rains.' *Sparmann* saw the flesh dried in a somewhat similar manner, by the Hottentots of the Boshiesman race. Bruce has given a spirited narrative of an elephant-hunt, conducted by the Africans, who principally subsist on his flesh:—

'An hour before day, after a hearty breakfast, we mounted on horseback, to the number of about thirty. But there was another body, both of horse and foot,

* Discoveries in Africa, p. 221.

† Voyage en Afrique, tom. i, p. 141, 4to.

‡ Hist. Nat., lib. viii, cap. ix.

which made hunting the elephant their particular business. These men dwell constantly in the woods, and know very little of the use of bread, living entirely upon the flesh of the beasts they kill, chiefly that of the elephant and rhinoceros. They are exceedingly thin, light, and agile, both on horseback and foot; are very swarthy, though few of them are black; none of them woolly-headed, and all of them have European features. They are called Agageer, a name of their profession, not of their nation, which comes from the word agar, and signifies to hough or hamstring with a sharp weapon. More properly it means the cutting of the tendon of the heel, and is a characteristic of the manner in which they kill the elephant, which is shortly as follows:—

‘Two men, absolutely naked, without any rag or covering at all about them, get on horseback; this precaution is for fear of being laid hold of by the trees or bushes, in making their escape from a very watchful enemy. One of these riders sits upon the back of the horse, sometimes with a saddle, and sometimes without one, with only a switch, or short stick in one hand, carefully managing the bridle with the other; behind him sits his companion, who has no other arms but a broadsword, such as is used by Sclavonians, and which is brought from Trieste. His left hand is employed grasping the sword by the handle; about fourteen inches of the blade is covered with whip-cord. This part he takes in his right hand, without any danger of being hurt by it; and, though the edges of the lower part of the sword are as sharp as a razor, he carries it without a scabbard.

‘As soon as the elephant is found feeding, the horseman rides before him as near his face as possible; or, if he flies, crosses him in all directions, crying out, ‘I am such a man and such a man; this is my horse,

that has such a name; I killed your father in such a place, and your grandfather in such another place; and I am now come to kill you; you are but an ass in comparison of them." This nonsense he verily believes the elephant understands, who, chased and angry at hearing the noise immediately before him, seeks to seize him with his trunk, or proboscis; and, intent upon this, follows the horse everywhere, turning and turning round with him, neglectful of making his escape by running straight forward, in which consists his only safety. After having made him turn once or twice in pursuit of the horse, the horseman rides close up alongside of him, and drops his companion just behind on the off-side; and while he engages the elephant's attention upon the horse, the footman behind gives him a drawn stroke just above the heel, or what in man is called the tendon of Achilles. This is the critical moment; the horseman immediately wheels round, takes his companion up behind him, and rides off full speed after the rest of the herd, if they have started more than one; and sometimes an expert agageer will kill three out of one herd. If the sword is good, and the man not afraid, the tendon is commonly entirely separated; and if it is not cut through, it is generally so far divided, that the animal with the stress he puts upon it, breaks the remaining part asunder. In either case, he remains incapable of advancing a step, till the horseman's return, or his companions coming up pierce him through with javelins and lances: he then falls to the ground, and expires with loss of blood.

'The agageer nearest me presently lamed his elephant, and left him standing. Ayto Engedan, Ayto Confu, Guebra Marram, and several others, fixed their spears in the other before the agageer had cut his tendons. My agageer, however, having

wounded the first elephant, failed in the pursuit of the second; and being close upon him at the entrance of the wood, he received a violent blow from the branch of a tree which the elephant had bent by his weight, and, after passing, allowed it to replace itself; when it knocked down both the riders, and very much hurt the horse. This, indeed, is the great danger in elephant-hunting; for some of the trees, that are dry and short, break by the violent pressure of so immense a body moving so rapidly, and fall upon the pursuers, or across the road. But the greatest number of these trees being of a succulent quality, they bend without breaking, and return quickly to the former position, when they strike both horse and man so violently that they often beat them to pieces.'

As we have before intimated, the destruction of the elephant for his flesh is almost nothing when compared with the havoc which is produced by the demand for ivory. The circumstance of an elephant's death was so rare in those parts of Africa through which Major Denham travelled, that it was an event 'which put whole families in motion, with their daughters mounted on bullocks.' We shall endeavour to collect from various travellers, more particularly from Mr Cowper Rose, a brief account of the mode in which the pursuit of the elephant for his teeth is now conducted in Africa.

The elephant hunter, that is, the man who directs the operations of the Hottentots, is often a European. Mr Rose shared the dangers of such a man, a native of England, who had been a smuggler; — 'a thin, spare, bony man, formed for activity,' with 'a sun-scorched countenance, and an eye of habitual watchfulness.' His hunting dress was a dark blue linen shirt; trowsers of the same colour, supported by a waist-belt; a yellow silk handkerchief bound

tightly round his head; his powder-horn and pouch hung on his side. The two Hottentots who accompanied the hunter were equipped even in a more unpretending costume:—trousers tucked up to the knee, showing bare legs that defied thorns; one shoulder-belt from which the pouch and powder-horn were suspended, and another supporting a hatchet for cutting out the tusks, and a bag for holding wild-honey. Three or four bold spirits thus compose a hunting-party. Each bears an immense gun, weighing at least twenty pounds. Their course is through the wildest countries, where no sound is heard by day but the monotonous toll of the *campanero*, or bell-bird,—and no more pleasing voice at night than the shriek of the jackal, and the chattering of the hyæna. Foot-prints of the elephant begin to be traced; and the Hottentots, with unvarying accuracy, determine when the animal passed ‘This is three days old’—or, ‘This is last night.’ Several days are passed in these fatiguing marches under a burning sun. At length the hunter sees a troop of elephants on a distant hill, while the inexperienced European can discover nothing. Valliant has described, with his usual spirit, the wonderful accuracy with which the Hottentot pursues the traces of the animal that he seeks; ‘What a subtle sense is the sight of a Hottentot! How he assists it by a difficult and truly wonderful attention! Upon a dry ground, where, in spite of his great weight the elephant scarcely leaves any trace—in the midst of dead leaves, scattered and curled up by the wind—the African recognises his step. He sees the way which the animal has taken, and that which he himself must follow. A green leaf turned up or broken off, a bud or a little twig bruised or torn down—these and a thousand other circumstances are indications which never fail him. The most expert European

hunter is completely baffled; for myself I could never understand it.* This accuracy of observation at length brings the hunters close to the herd; and then the excitement and the danger begin; fatigue is forgotten; the tempting ivory is within the grasp of the anxious adventurers. We shall describe the scene which follows, in Mr Rose's words: —

‘ But now we went on with fresh vigour, and gained the hill opposite to that on which they were; we halted and watched; a few words passed between the hunter and Skipper (a Hottentot), and we descended silently the ravine that divided us. Again they whispered, — marked from what point the light breeze came; and we commenced the steep ascent in a direction that the wind might come from the animals to us; for we were now so near them, that their quick scent would have discovered us. Skipper led, while we followed in Indian file, threading a narrow rocky path, which skirted one bank of a small hollow, while the huge beasts were feeding on the opposite one. The leader halted, the hunter gave my companion and myself lighted sticks, and whispered directions to fire the bush and grass, and to retreat, in the event of the animals charging. It was a strange feeling to find myself within twenty yards of creatures whose forward movement would have been destruction; but they stood browsing on the bushes, and flapping their large ears, pictures of indolent security. We were taking our stations when we heard a shot, and then another, and of the eight elephants, seven fled. We went forward to see the effect of the shots. Skipper's had carried death with it; the elephant had fallen, but rose again. I never heard anything like its groans; he

* Vol. i, p 141.

again fell, and we went up to him; the ball had entered behind the shoulder and reached the heart.'

The troop of elephants flee, but their enemy quickly follows. Their course may be now easily traced, for they are terrified and angry. They uproot every thing that impedes their path; branches are strewed every where around; and the large euphorbias are broken like twigs. They at length stop. Their huge backs show above the bush. The hunters steal on — again fire — again an elephant dies — and again the herd rushes forward. Night comes on. The adventurers light a blazing fire, and sleep in safety, while the elephants and the buffaloes are around them: During the night one of the Hottentots may be heard reciting some tale of danger or superstition in a dull, monotonous voice; and when the story of one is finished, another begins some similar narrative. At the dawn of day they are ready again to start. The pursuit continues, either till the remainder of the herd are destroyed or have escaped — or till the ammunition is exhausted. The party then retrace their ground, with their horses, to carry off the tusks, which they have marked as each animal is killed. There is no difficulty in finding the spots; for a Hottentot, in a country where hill and hollow are equally clothed with jungle, will, in the heat of a fatiguing day, throw his hatchet into a bush, and after weeks return to the same bush, and take it up again.*

The chase of the elephant, conducted in this manner, is an occasion of extraordinary excitement — but it is also a work of great fatigue and danger. The hardships and terrors of such a life are described by Mr Rose, in the words of the European hunter whom he accompanied: —

* Rose, p. 289.

‘I was surprised to hear D—— say, that it was his wish to leave his present life, and to settle quietly on his farm. “Indeed!” I said, “I should have thought that this wild pursuit, and your former dangerous trade, would render a quiet life somewhat sleepy.”—“I have a wife now, and shall have children, and have been driven to this by debt and necessity. I have nearly got over my difficulties, for in twenty months, I and my Hottentots have killed eight hundred elephants; four hundred have fallen by this good gun; and when I am free, I quit it. Scores of times have the elephants charged around me, even within a yard of the bush under which I had crept; and I feel that it was a chance I was not crushed. Once I had fired on a large troop in a deep ravine, one side of which was formed by a steep cliff, which echoed back the sound of the firing, and a hundred elephants, with upraised ears, and loud screams, and tossing trunks, rushed down the narrow pass, and charged the echo, being the opposite side to that in which we had fired, and the one to which we had moved; myself and Hottentots lying in the bush, while they rushed by us. The boldest hunter is killed at last. I have, when pursued by a rhinoceros, sprung down a high bank, not knowing its depth, or whether I might not fall on a rock or stump. No, sir, it is a life of no common hardship and danger. I have been obliged to eat the veldtschoon (untanned leather shoes) from my feet.’

The elephant is sometimes fearfully revenged upon his great enemy, the ivory-hunter. Mr Burchell has told the story of *Carel Krieger's* fate; and many similar accidents might doubtless be found in the rude traditions of the Africans.*—

* Travels, vol. i, p. 301.

‘He was an indefatigable and fearless hunter; and, being also an excellent marksman, often ventured into the most dangerous situations. One day, having with his party pursued an elephant which he had wounded, the irritated animal suddenly turned round, and, singling out from the rest the person by whom he had been wounded, seized him with his trunk, and, lifting his wretched victim high in the air, dashed him with dreadful force to the ground. His companions, struck with horror, fled precipitately from the fatal scene, unable to turn their eyes to behold the rest of the tragedy. But on the following day they repaired to the spot, where they collected the few bones that could be found, and buried them near the spring. The enraged animal had not only trampled his body literally to pieces, but could not feel its vengeance satisfied till it had pounded the very flesh into the dust, so that nothing of this unfortunate man remained, excepting a few of the larger bones.’

We have before us a very picturesque account of a remarkable escape from destruction by an enraged elephant, which has been furnished to us by Mr Pringle. The hero of the narrative is Lieut. J. D. Moodie, of the 21st fusileers, who is now in England:—

‘In the year 1821, I had joined the recently formed semi-military settlement of Fredericksburg, on the picturesque banks of the Gualana, beyond the Great Fish river. At this place our party (consisting chiefly of the disbanded officers and soldiers of the Royal African corps) had already shot many elephants, with which the country at that time abounded. The day previous to my adventure I had witnessed an elephant hunt for the first time. On this occasion a large female was killed, after some

hundred shots had been fired at her. The balls seemed at first to produce little effect, but at length she received several shots in the trunk and eyes, which entirely disabled her from making resistance or escaping, and she fell an easy prey to her assailants.

‘On the following day, one of our servants came to inform us that a large troop of elephants was in the neighbourhood of the settlement, and that several of our people were already on their way to attack them. I instantly set off to join the hunters, but, from losing my way in the jungle through which I had to proceed, I could not overtake them, until after they had driven the elephants from their first station. On getting out of the jungle I was proceeding through an open meadow on the banks of the Gualana, to the spot where I heard the firing, when I was suddenly warned of approaching danger, by loud cries of ‘*Pas-op!* — Look out!’ coupled with my name in Dutch and English; and at the same moment heard the crackling of broken branches, produced by the elephants bursting through the wood, and the tremendous screams of their wrathful voices resounding among the precipitous banks. Immediately a large female, accompanied by three others of a smaller size, issued from the edge of the jungle, which skirted the river margin. As they were not more than two hundred yards off, and were proceeding directly towards me, I had not much time to decide on my motions. Being alone, and in the middle of a little open plain, I saw that I must inevitably be caught, should I fire in this position, and my shot not take effect. I therefore retreated hastily out of their direct path, thinking they would not observe me, until I should find a better opportunity to attack them. But in this I was mistaken, for on looking

back I perceived, to my dismay, that they had left their former course, and were rapidly pursuing and gaining ground on me. Under these circumstances I determined to reserve my fire as a last resource; and turning off at right angles in the opposite direction, I made for the banks of the small river, with a view to take refuge among the rocks on the other side, where I should have been safe. But before I got within fifty paces of the river, the elephants were within twenty paces of me — the large female in the middle, and the other three on either side of her, apparently with the intention of making sure of me; all of them screaming so tremendously, that I was almost stunned with the noise. I immediately turned round, cocked my gun, and aimed at the head of the largest — the female. But the gun, unfortunately, from the powder being damp, hung fire, till I was in the act of taking it from my shoulder, when it went off, and the ball merely grazed the side of her head. Halting only for an instant, the animal again rushed furiously forward. I fell — I cannot say whether struck down by her trunk or not. She then made a thrust at me with her tusk. Luckily for me she had only *one*, which still more luckily missed its mark. She then caught me with her trunk by the middle — threw me beneath her fore-feet — and knocked me about between them for a little space: — I was scarcely in a condition to compute the number of minutes very accurately. Once she pressed her foot on my chest with such force, that I actually felt the bones, as it were, bending under the weight; and once she trod on the middle of my arm, which, fortunately, lay flat on the ground at the time. During this rough handling, however, I never entirely lost my recollection, else I have little doubt she would have settled my accounts with this world. But

owing to the roundness of her foot, I generally managed, by twisting my body and limbs, to escape her direct tread. While I was still undergoing this buffeting, Lieutenant Chisholm, of the R. A. corps, and Diederik, a Hottentot, had come up, and fired several shots at her, one of which hit her in the shoulder; and at the same time her companions, or young ones, retiring, and screaming to her from the edge of the forest, she reluctantly left me, giving me a cuff or two with her hind feet in passing. I got up, picked up my gun, and staggered away as fast as my aching bones would allow; but observing that she turned round, and looked back towards me, before entering the bush, I lay down in the long grass, by which means I escaped her observation.

‘On reaching the top of the high bank of the river, I met my brother, who had not been at this day’s hunt, but had run out on being told by one of the men that he had seen me killed. He was not a little surprised at meeting me alone and in a whole skin, though plastered with mud from head to foot. While he, Mr Knight of the Cape regiment, and I, were yet talking of my adventure, an unlucky soldier of the R. A. corps, of the name of M’Clane, attracted the attention of a large male elephant, which had been driven towards the village. The ferocious animal gave chase, and caught him immediately under the height where we were standing — carried him some distance in his trunk — then threw him down, and bringing his four feet together, trod and stamped upon him for a considerable time, till he was quite dead. Leaving the corpse for a little, he again returned, as if to make quite sure of his destruction, and kneeling down, crushed and kneaded the body with his fore-legs. Then seizing it again with his

trunk, he carried it to the edge of the jungle, and threw it among the bushes. While this tragedy was going on, my brother and I scrambled down the bank as far as we could, and fired at the furious animal, but we were at too great a distance to be of any service to the unfortunate man, who was crushed almost to a jelly.

‘Shortly after this catastrophe, a shot from one of the people broke this male elephant’s left fore-leg, which completely disabled him from running. On this occasion, we witnessed a touching instance of affection and sagacity in the elephant, which I cannot forbear to relate, as it so well illustrates the character of this noble animal. Seeing the danger and distress of her mate, the female before mentioned (my personal antagonist), regardless of her own danger, quitted her shelter in the bush, rushed out to his assistance, walked round and round him, chasing away the assailants, and still returning to his side and caressing him; and when he attempted to walk she placed her flank under his wounded side and supported him. This scene continued nearly half an hour, until the female received a severe wound from Mr C. Mackenzie of the R. A. corps, which drove her again to the bush, where she speedily sank exhausted from the loss of blood; and the male soon after received a mortal wound also from the same officer.

‘Thus ended our elephant hunt; and I need hardly say, that what we witnessed on this occasion, of the intrepidity and ferocity of these powerful animals, rendered us more cautious in our dealings with them for the future.’

We have thus exhibited a picture of the chase of the wild elephant in Africa. The rude modes of de-

struction to which he is there subjected present a singular contrast to the caution, merciful even in cruelty, with which he is entrapped in India, to be reduced to domesticity.* The African elephant was in former times tamed; but in no part of that extensive region is he now, as far as we know, employed by man, either for war or commerce. He is driven from forest to forest, as the desire of gain carries the hunter farther and farther from the abodes of civilization. Man presents himself, there, only as a destroyer. He does not capture the 'half-reasoning' beast, to become his protector, — to identify him with the follies of human pride, — to teach him the value of human affections. The Africans are very disinclined to believe what they have not seen; like all other ignorant people, they are at once incredulous and superstitious, — crediting a number of wild things beyond the reach of human evidence, and refusing to believe circumstances connected with ordinary matters, which are out of the range of their own experience. Thus, in many parts where the elephant abounds, the assertion that he is tamed and ridden in other countries, passes as one of the white-man's lies.† How much more would the poor Bachapin withhold his credence, if he were told that the domestic elephant, if he escape from confinement, will come back to his duty, after a lapse of many years, upon hearing the voice of his keeper; that he will assist in capturing and confining his own species; that he may be trusted without a guide, not only to carry burthens far greater than a horse or a buffalo could bear, but to deposit his load in any place to which he

* The elephant is, however, sometimes shot in India, as in Africa. In Colonel Welsh's *Reminiscences*, lately published, there is an interesting account of an elephant being thus destroyed, in the territory of the Rajah of Coorg.

† Ranking's *Wars and Sports*, p. 2.

is accustomed, with as much precision as if it were taken from his back by human hands! It will be for us to exhibit, in the succeeding chapters, the various modes, all curious and instructive, in which the elephant is employed, when man has subdued his natural strength and sagacity, to administer to the necessities of civilized life. We have completed our picture of him in his state of nature.

CHAPTER VI.

Domestic employment of Elephants in the East. — Training. — Docility.

AN old traveller in the East, describing the mode of taming the wild elephant after his capture, says, 'The people goad him with pointed canes till they force him into a narrow stall, in which he is securely fastened with strong ropes about his body and legs, and is left there for three or four days without food or drink. Then they bring a female to him, with food and drink, and unbind the ropes, and he becomes tame in three or four days.'* The rapidity with which the elephant is here represented as becoming content with his new lot, is an exaggeration. The actual process is a much slower one. The animal is carefully attended upon; all his necessities are diligently supplied; he has abundance of food and drink; his skin is kept cool by continued applications of water; the flies that irritate him are driven off. One man, his intended keeper, is always about him, soothing him by the most diligent kindness. The animal gradually learns that his comforts must depend upon the will of this keeper, and he allows him, therefore, to approach him, and at length to get upon his back. As the elephant gains confidence the keeper is more bold, and soon takes his position upon the neck, with the iron hook (*hawkuss* or *ankush*), ready to direct him, by catching hold of his ear, or pressing it into his skin. To this rough monitor he

* Fitch's Journey; in Kerr's Collection of Voyages, vol. vii, p. 491.

gradually yields entire submission, as the horse submits to be urged on by the spur. The method of reducing the elephant to obedience, pursued at this day in Hindostan, is doubtless that which has been observed for centuries in a country where nothing changes. The 'Dwin-Shaster,' one of the old sacred books of the Hindoos, says, 'the mind is stronger than an elephant, whom men have found means to subdue, though they have never been able to subdue their own inclinations. But the *ankush* of the mind is true wisdom, which sees into the vanity of all worldly things.'*

It is generally as long as six months before the elephant is rendered perfectly obedient to his keeper, so as to be conducted from place to place, without difficulty. The females are invariably more docile than the males, and require much less severity in their breaking in. The subjection of this animal, as in most other instances of the domination of man over inferior creatures, is produced by impressing him with fear as well as affection. When his spirit is broken by his first confinement, he is soothed by unvarying kindness, till he permits his master to bestride him; and then comes the terror of the hook and the spike. Upon the whole, however, elephants are reduced to and kept in obedience more by kindness than severity. Mr Corse complains that 'the keepers trust too much to their good nature, before they are thoroughly acquainted with their dispositions.' This circumstance indicates that, according to the experience of these professional superintendents of the education of the elephant, the nature of the animal is generally tractable. There are, however, great differences of character amongst them; which differences render it unsafe to trust too much to their

* Dow's Hindostan, p. lviii.

obedience before it has been fully proved. Of the three elephants with which Bishop Heber travelled in Oude, one was described by his mohout as a fine-tempered beast, but the other two, he said, were 'great rascals.' Unruly elephants are by no means uncommon. Isbrand Ides, an ambassador from the Czar of Russia to China, saw at Peking an elephant fastened with great chains on account of his evil temper; and such was the apprehension of mischief from his escape, that a pit was dug by his side that he might fall in if he broke his fetters.* Dampier, describing the curiosities of Tonquin, says, 'Some of the elephants are very gentle and governable; others are more indocile and unruly. When these rude ones are to pass through the streets, though only to be watered, the rider or dresser orders a gong or drum to be beaten before him, to warn people that an unruly elephant is coming; and they presently clear the streets and give a passage for the beast, who will do mischief to any that are in the way, and their riders or keepers cannot restrain him.†' Shah-Jehan, the Mogul emperor, was so enraged by the disrespect of the ambassador of his rival, Shah-Abbas, the king of Persia, that he gave secret orders that when the ambassador entered a long and narrow street in the fortress of Delhi, leading to the hall of assembly, a vicious elephant should be let loose upon him.‡ The differences of character between elephants are so marked, that at the court of Siam, according to Tavernier, 'if any favourite elephant falls sick and dies, he is, with funeral pomp, burned to ashes with reeds and the weight of his body of sweet wood; but if he be an offender, he is not burnt, but buried.'§ The temper of the elephant cannot

* Hist. Gen. des Voyages, v. 517.

† Dampier's Voyages, vol. ii, p. 68. ‡ Bernier, vol. i, p. 174.

§ Tavernier, p. ii, b. iii, c. 18.

always be calculated upon. The most morose will sometimes become perfectly docile, and the most gentle will occasionally be intractable and revengeful. Mr Williamson tells an anecdote of a male elephant belonging to a gentleman at Chittagong, which he endeavoured for ten years, but in vain, to render obedient. 'He was repeatedly offered for sale at a low price; but his character was so well known, that none would purchase him. It is customary in that district to have the fire-wood, which is cut into stumps of about a foot or less in diameter, and perhaps five or six feet long, piled regularly, and this work is usually performed by elephants; when properly trained they will execute it as well as any labourers. The animal in question could not be induced to perform this drudgery; and all attempts to enforce his obedience having proved useless, his master at last gave up the point: to his utter astonishment the elephant became suddenly good tempered, and went of his own free will to the wood-yard; where he not only exerted himself greatly, but was, in the regularity of his work, at least equal to those which had more practice.*' Was this extraordinary change produced by any physical alteration in the animal; or was it the result of a process of reasoning, by which the creature discovered that the labour, to which his companions submitted, would be less annoying than the constant punishment and irritation to which he was subjected by his disobedience?

The elephant, like all other animals, is sometimes made unruly by injudicious punishment, and this might have been the case in the remarkable conduct above described. A fearful example of this came under the notice of Mr Zoffany, an English artist, who painted a spirited picture of the circum-

* *Oriental Field Sports*, p. 80.



Enraged Elephant destroying his drivers.

stance, of which he was an eye-witness. In the progress of the embassy from the Vizier of Oude, to Calcutta, to meet Lord Cornwallis, a male baggage elephant, carrying a number of people on his back, was suddenly irritated by his mohout, who struck him violently with his hawkuss. The unhappy man was in an instant pulled from his seat by the enraged beast, who suspended him by his trunk in a way which rendered escape impossible, and then dashed him to pieces. The foregoing wood-cut is taken from the principal group in Mr Zoffany's representation.

Examples, such as this, of sudden and violent revenge, are comparatively rare. The elephant, however, is mindful of injuries, exactly in the same measure that he is grateful for benefits. The modes in which he avenges trifling wrongs are often extremely ludicrous; and these seem to be employed as if to afford satisfaction to his own consciousness of physical power. Every one recollects the story of the elephant at Delhi, that half-drowned an unhappy tailor with water from his trunk, because the man had pricked him with his needle, instead of giving him an apple. Mr Williamson tells an anecdote, of an elephant who used to be called the Paugul, or fool, but who vindicated his claim to another character in a very singular manner. He had refused to bear a greater weight upon a march than was agreeable to him, by constantly pulling part of the load off his back; and a quarter-master of brigade, irritated at his obstinacy, threw a tent-pin at his head. In a few days after, as the animal was going from the camp to water, he overtook the quarter-master, and, seizing him with his trunk, lifted him into a large tamarind tree which overhung the road, leaving him to cling to the boughs, and get down as well as he could. Lieut. Shipp, to try this memory of injuries, gave an ele-

phant a large quantity of Cayenne pepper between some bread. The animal was much irritated by the offence; and about six weeks after, when the unsuspecting joker went to fondle him, he endured the caresses very placidly, but finished the affair by drenching his persecutor with dirty water, from head to foot.* The keepers of our menageries have always some stories of the odd methods in which elephants avenge their wrongs. In a very pleasant book for young persons, abounding in valuable information, mention is made of a recent instance of this quality: — a man took hold of an elephant's tail in the streets of London, when the animal was so displeased by the indignity, that he turned suddenly round, and grasping the man with his trunk, placed him against some iron rails, where he kept him prisoner, till the keeper, by his entreaties, procured the offender's release.†

That the elephant should be sensible of injuries is not surprising; for, when once domesticated, he is of a confiding nature, and capable of strong attachment to human beings. Ælian tells us of an elephant that was passionately fond of a girl that sold flowers in the streets of Antioch; and Athenæus of one that so attached himself to a child, that he would only eat in his favourite's presence, and, when the little one slept, was incessantly occupied in driving away the flies which surrounded him. Strabo says that, sometimes, when the driver of an elephant is removed from him, he will pine to death. Lieut. Shipp has a very minute account of an elephant, who, having killed his mohout in a fit of rage, was so sensible of his offence, that he gradually lost his health, and died six months afterwards. In Purchas's

* Shipp's Memoirs, vol ii, p. 268

† Bertha's Visit to her Uncle in England.

collection of voyages there is a story of an elephant that mourned fifteen days for his master, the king of Ava, who was slain in battle. In such stories there is always some allowance to be made for the imagination of the persons who relate them; for it is to be observed that, of all subjects, that of the sagacity of animals admits of most exaggeration. We must believe just as much as is consistent with what we really know, and no more. It is not incredible that an elephant should feel the loss of his driver, in the same degree that a dog will exhibit unequivocal symptoms of grief in the absence of his master, and watch over his grave when he dies. The elephant, even as much, and perhaps more, than the dog, is indebted to those who have the care of him for a variety of agreeable sensations. In the East he is not only regularly fed, but carefully tended, so as to prevent the annoyances of heat and insects. 'We went,' says Tavernier, 'to the river, to see the king's and great noblemen's elephants washed. When they have soaked themselves in the water, they are rubbed and cleaned with pumice-stone, and after they are dry they are rubbed with oil of cocoa.' The elephant, too, 'has learned to have a pride in the ornaments and trappings with which man, for the purpose of pomp and parade, has clothed him.*' The painted hide, the embroidered housing, the silver bells suspended over the back by a massy chain, the rings of gold upon the tusks, — these are delights to the elephant, who, like other quadrupeds, and some bipeds, is proud of the badges of his slavery. Pliny, upon the authority of Antipater, relates that one of the elephants of Antiochus, being deprived of his silver trappings for refusing to sound the depth of a river, refused to eat, and died under

* Home, *Comp. Anat.*, vol. iii, p. 181.

the disgrace. This is, doubtless, an exaggeration of a quality in the animal which was observed by the ancients as well as the moderns. But, unquestionably, the domesticated elephant delights in magnificence; and thus he is peculiarly adapted for the cumbrous pageantry of an Asiatic court. That he should adapt himself to the circumstances around him, and, as Bernier describes him, move with a solemn and dignified step, as if proud of his gorgeous attire, is a natural consequence of his extraordinary docility. But that he should have any instinctive veneration for the pageants of which he forms a part, or any natural reverence for the despots whose pride is flattered by them, is just as unlikely as that all other elephants should salam (make obedience) to those of Ceylon, in deference to their superior merits, as the Cingalese believe.* He becomes proud of his trappings because he is habituated to them upon all occasions of ceremonial, when he readily receives impressions in unison with the general pomp, from the words and gestures of those around him. And this consideration brings us to the various modes by which his docility is maintained.

The obedience of the elephant to his mohout is a habit which he acquires from the earliest hours of his captivity. One man invariably attends upon him — feeds, caresses, punishes him. On a journey, ‘the mohout says nothing, but guides him by pressing his legs to his neck, on the side to which he wishes him to turn, urging him forwards by the point of a formidable goad, and stopping him by a blow on the forehead with the butt-end of the same instrument.’† The mohout is the real moving power of the elephant’s services; the animal knows who bestrides him, and his obedience is rarely withheld. The

* Heber.

† Ibid, i, 37

attendants of the elephant practise a somewhat ludicrous mode of assisting the command of the driver. 'While the elephant is going on, a man walks by his side, telling him where to tread, bidding him "take care," — "step out," warning him that the road is rough, slippery, &c, all which the animal is supposed to understand, and take his measures accordingly.*' This assistance to the *mohout* is probably, in most cases, an unnecessary parade, arising from the almost infinite division of labour in Hindostan. But the practice of addressing the elephant in this manner proceeds from the general belief that he understands what is said to him. This belief is, of course, carried to a ridiculous excess in many instances; and it has even been accompanied by a notion that he can speak, as in the case of the elephant described by Christopher Acosta: — At Cochin, according to this writer, there was an elephant that worked at the port with all the skill of a human labourer. One day, when he was much fatigued, the governor of the port desired him to assist in launching a boat. The elephant refused; and the man of authority, having in vain employed all his caresses, commanded him to do it in the name of the King of Portugal. The loyal beast, it is added, instantly replied, 'I will, I will,' and performed his task. This story may explain some of the old fables of the elephant speaking; for, in the Malabar language, 'I will,' is expressed by 'hoo,' — a very natural sound for an elephant to make, not upon the invocation of the King of Portugal, but upon the more effectual stimulus of the blow which probably accompanied the utterance of the magical name. Mr Williamson says, that 'elephants, after being some time in training, acquire a perfect intelligence regarding particular

* Heber.

words of command in general use. They will answer to their respective names; and, uttering a shrill note, somewhat resembling the sound produced by blowing forcibly into a shell, resort to their mohouts when called.* The individual dogs of a kennel of hounds will do the same; and both dogs and horses perfectly well understand words to which they are accustomed. Elephants apparently go somewhat further in their docility; for they will perform particular acts, upon the promise of special rewards, such as arrack, or sweetmeats; and it is extremely dangerous, when the work is finished, to make any attempt not to complete the bargain. This comprehension that he shall receive a gratification upon certain conditions of service, is probably induced in the elephant by accustoming him, in the first place, to see the promised reward, and systematically giving it to him after the work is done. A connexion would be thus established in the animal's mind between his own exertions and the benefit they were to procure him. At any rate, a distinct relation between the word and the thing must be clearly marked; and from the necessary difficulty of doing this in any case where a different intelligence from the human is to be acted upon, it is evident that the use of language must be very limited. Words are used, probably, almost always in union with gestures; and the gesture, when the animal is strictly habituated to one meaning for one movement of his instructor, is, in all likelihood, the more effectual mode of communication. The scene which has been described by the author of *Waverley*, where the justice of Hyder Ali was summarily executed upon an offender, by signal to an elephant, is not a fanciful picture.† Bishop

* *Oriental Sports*, p. 41.

† *Chronicles of the Canongate — The Surgeon's Daughter*.

Heber says, 'the command these men (the mohouts) have over their elephants is well known; and a circumstance lately occurred of one of them making a sign to his beast, which was instantly obeyed, to kill a woman who had said something to offend him. The man was executed before our arrival.*' Tavernier, travelling with the Mohammedan army of the Mogul, was astonished to see the elephants, to the great annoyance of the Hindoo inhabitants, seize upon the little images which stood before the pagodas, and dash them to pieces. Tavernier discovered the truth, although it was carefully concealed: the intolerant drivers made a signal to their animals to destroy the monuments of a worship which was offensive to them.

The most remarkable peculiarity in the docility of an elephant is the certainty with which he may be trusted to perform particular labours, without the immediate superintendence of man. That a well-trained one should be governed by a child, as is frequently the case, is not extraordinary; for a gentle horse will yield the same habitual obedience. But that the elephant should readily comprehend that he has an especial duty to accomplish, and patiently set about doing it in his own way, and without control or assistance, is certainly a forcible proof of a great docility, which could only be founded upon a superior sagacity. Many elephants are in the habit of tying their own legs at night;† — they are brought to this by custom. But they will perform duties of a variable nature, in which an uniform habit has not been acquired; and which could only be accomplished by an extreme aptitude of comprehension. Thus an elephant may supply the place of a nurse. 'I have myself,' says an officer who has served in India,

* Journal, i, 36.

† Williamson

'seen the wife of a mohout (for the followers often take their families with them to camp) give a baby in charge to an elephant, while she went on some business, and have been highly amused in observing the sagacity and care of the unwieldy nurse. The child, which, like most children, did not like to lie still in one position, would, as soon as left to itself, begin crawling about; in which exercise it would probably get among the legs of the animal, or entangled in the branches of the trees on which he was feeding; when the elephant would, in the most tender manner, disengage his charge, either by lifting it out of the way with his trunk, or by removing the impediments to its free progress. If the child had crawled to such a distance as to verge upon the limits of his range, (for the animal was chained by the leg to a peg driven into the ground,) he would stretch out his trunk, and lift it back as gently as possible to the spot whence it had started.* With the same judgment an elephant will task his strength, without human direction. 'I have seen,' says M. D'Obsonville, 'two occupied in beating down a wall which their cornacs (keepers) had desired them to do, and encouraged them by a promise of fruits and brandy. They combined their efforts; and doubling up their trunks, which were guarded from injury by leather, thrust against the strongest part of the wall, and, by reiterated shocks, continued their attacks, still observing and following the effect of the equilibrium with their eyes; then, at last, making one grand effort, they suddenly drew back together, that they might not be wounded by the ruins.' We have heard of an elephant at Barrackpoor, that would swim, laden with parcels, to the opposite shore of the Ganges, and then unload himself with the utmost

* Twelve Years' Military Adventure.

precision. In the year 1811, a lady, who related the circumstance to us, staying with her husband, an officer in the Company's service, at a house near the fort of Travancore, was astonished, early one morning, to observe an elephant, unattended, marching into the court-yard, carrying a box in his trunk, apparently very heavy. He deposited this, and going his way, soon returned with a similar box, which he placed by the side of the other. He continued this operation till he had formed a considerable pile, arranged with undeviating order. The boxes contained the treasure of the Rajah of Travancore, who had died in the night, and of whose property the English commander had taken possession, thus removing the more valuable for greater security.

‘The oxen that served in the royal gardens of Susa, to water them, and turn certain great wheels to draw water for that purpose, to which buckets were fastened, (such as there are many in Languedoc,) being ordered every one to draw a hundred turns a day, they were so accustomed to this number, that it was impossible by any force to make them draw one turn more; but, their task being performed, they would suddenly stop and stand still.’* The oxen of Susa had one unvarying task, such as that of a horse in a mill; and although it indicated some intelligence in the animals to know when that task was accomplished, this habitual accuracy is not to be compared, as an intellectual effort, to the discretion of the elephant. The oxen were wholly controlled by habit; the elephant accommodates himself to circumstances. When the old starved elephant which Bishop Heber saw, fell down, another elephant of very large size, and in somewhat better plight, was brought to assist. ‘I was much struck,’ says the

* Montaigne's *Essays*, book ii, c. 12.

Bishop, 'with the almost human expression of surprise, alarm, and perplexity in his countenance, when he approached his fallen companion. They fastened a chain round his neck and the body of the sick beast, and urged him in all ways, by encouragement and blows, to drag him up, even thrusting spears into his flanks. He pulled stoutly for a minute; but on the first groan his companion gave he stopped short, turned fiercely round with a loud roar, and with his trunk and fore feet began to attempt to loosen the chain from his neck.'* The sympathy of the animal for his suffering fellow was greater than his habitual obedience. But elephants accommodate themselves to circumstances in even a more extraordinary manner than such a refusal as this to perform a disagreeable task. The Baron de Lauriston states that he was at Lacknaor when an epidemic distemper was raging, and when the road to the palace was covered with the sick and the dying. The Nabob came out upon his elephant. His slaves, regardless of their unhappy fellow-creatures, made no attempt to clear the road; but the more charitable beast, without any command, lifted some out of the way with his trunk, and stepped so carefully among the rest that none were hurt. This was, probably, a high exercise of the instinctive faculty which we have already noticed, by which the bulky elephant has a terror of smaller animals coming in his path. An effect of intelligence, even more extraordinary than the instances we have mentioned, is recorded upon the authority of an artillery officer who witnessed the transaction. 'The battering train going to the siege of Seringapatam had to cross the sandy bed of a river, that resembled other rivers of the Peninsula, which leave, during the dry season, but a small stream

* Journal, vol. ii, p. 47.

of water running through them, though their beds are mostly of considerable breadth, very heavy for draught, and abounding in quicksands. It happened that an artilleryman, who was seated on the tumbrill of one of the guns, by some accident fell off, in such a situation that, in a second or two, the hind wheel must have gone over him. The elephant which was stationed behind the gun, perceiving the predicament in which the man was, instantly, without any warning from its keepers, lifted up the wheel with its trunk, and kept it suspended till the carriage had passed clear of him.* Examples such as these, and many more that might be adduced, would lead us to conclude, although it may be presumptuous to differ from one who has experience as a warrant for his opinions, that the sentence which a recent traveller has pronounced upon the sagacity of the elephant is somewhat hasty and prejudiced. Mr Crawford says — ‘The courage and sagacity of this animal have been as much exaggerated as its modesty. Its bulk, its strength, and its trunk, are its great recommendations, especially the latter. If man has been called the wisest of animals, because he possesses hands, the elephant may, with as much truth, be called the wisest of quadrupeds, because he possesses a trunk. But for this instrument, and its great strength, I think it doubtful whether it would be ranked higher, in intellectual endowments, than a despised animal of the same natural family — the hog.’ That man has any right to be called the wisest of animals, *because* he possesses hands, is easily contradicted; for if the possession of hands were any measure of wisdom, the monkey, who has four, would be twice as wise as the man. The hog may possess as high intellectual endowments as the elephant — but we have yet no evi-

* Twelve Years’ Military Adventure.

dence of such a fact. The elephant is very much his superior in general docility (for learned pigs are rare wonders), and the possession of great docility is generally an evidence of a high degree of intelligence.

It is not an unfrequent circumstance in India for a domesticated elephant to escape to the wild herd; and several who have thus thrown off the subjection of their masters have been retaken, after an absence of months, and even of years. This fact has been stated, by very competent observers, as an evidence against the sagacity of the animal. It appears to us only to prove that those who formerly asserted that it was not possible, by any art, to entrap an elephant a second time, were mistaken in this, as in many other notions, of the habits of this quadruped. There are two interesting accounts of elephants who had thus escaped, and were retaken, given by Mr Corse in the *Philosophical Transactions* for 1799. In one instance, a female who had twice escaped, after having been perfectly domesticated as a riding elephant, was taken in the keddah as usual. She was easily recollected; for she seemed perfectly reconciled to her situation, attended to her name, came to the side of the keddah when called, ate from the hands of the hunters, and at last knelt down when she was directed. In another case, that of a male who had escaped about eighteen months, the animal was furious when retaken in the keddah, and in every respect appeared as wild and outrageous as the other elephants. At length an old hunter boldly rode up to him, he having been previously recognized, and ordered him to lie down, pulling him by the ear. The animal seemed quite taken by surprise, and instantly obeyed the word of command. The habit of obedience was stronger than the habit of liberty. These elephants had escaped upon some sudden im-

pulse; — one was frightened at coming upon a tiger's track. They were retaken, because they did not separate themselves from their companions who were



Warren Hastings' Elephant.

pursued by the hunters. Even this circumstance does not appear to disprove the general sagacity of the animal; for the individual recollections which these elephants retained of their state of captivity might not be unpleasant ones. One thing is certain, — that their habits of obedience were not eradicated by their long absence from servitude. They yielded themselves, without any continued resistance, to the control of their old masters : — and all that it may be necessary to show of the domestic habits of the animal is comprised in his docility. That, it seems, cannot be changed by time or absence — by the pleasure of freedom or the fear of servitude. Without this readiness and constancy of obedience, how, indeed, could the elephant have ever been subdued, or how could he be retained in subjection?

Warren Hastings, the governor-general of India, possessed an elephant which had been ten years absent from the rule of man. His keeper being dismissed, he was refractory to all others who attempted to control him; and at length escaped to the wild herd. After the long interval we have mentioned, his old keeper recognized him in a keddah, and he instantly submitted himself to him. Mr Zoffany painted the portrait of this animal; and in the key to his published print of a tiger-hunt, vouches for the authenticity of this account.*

* The preceding cut is from Mr Zoffany's print. The instrument which the animal carries with his trunk is described as a cow-tail with a silver handle, which elephants of rank bear for driving off the flies.

CHAPTER VII.

Employment of Elephants in the East. — Travelling. — Sports.

‘THE Dutch East India Company,’ says Thunberg, ‘make use of elephants every where, to transport beams and other heavy articles.’* Such an employment as this of the vast strength of the elephant is one of the most obvious modes of rendering him useful. That strength would naturally be applied, without much discrimination, to all cases where extraordinary force was required, in a state of society when the power of machinery was imperfectly understood, and under governments that were indifferent to the cost of maintaining a large stud of these animals. In this manner Kublai Khan covered an artificial hill with full grown trees, removing them on the backs of elephants. ‘Not far from the palace, on the northern side, and about a bow-shot distance from the surrounding wall, is an artificial mound of earth, the height of which is full an hundred paces, and the circuit at the base about a mile. It is clothed with the most beautiful evergreen trees; for whenever his majesty receives information of a handsome tree growing in any place, he causes it to be dug up, with all its roots and the earth about them, and, however large and heavy it may be, he has it transported by means of elephants to this mount, and adds it to the verdant collection.’† What an oriental despot accomplished, with the most profuse ex-

* Travels, iv, 245.

† Marco Polo, book ii, chap. 6.

penditure of animal power, has been executed in our own day by a private gentleman, through the skilful application of scientific principles, at a very moderate expense.* When Timour built his great mosque at Samarcand, ninety-five elephants were engaged in drawing the stones. When ship-building was practised in a rude manner in India, elephants were employed to force the vessels off the stocks into the water. Verthema, who travelled in India in 1503, gives an example of their power of dragging ships on shore. 'I saw an instance of the extraordinary strength of these animals while at Cananore, where some Mahometans endeavoured to draw a ship on the land, stern foremost, upon three rollers; on which occasion three elephants, commodiously applied, drew with great force, and, bending their heads down to the ground, brought the ship on the land.'† In another place the same traveller says, 'I once saw the trunk of a tree overthrown by one elephant, which twenty-four men had in vain attempted.' We have already seen that the vast power of the animal has been exercised in beating down walls. In the war of Coromandel, in 1751, the gates of the fort of Ponomaley, in which the English under Clive made a spirited defence, were attempted to be battered down by elephants, whose foreheads were covered with iron plates.‡ Such uses of the power of this quadruped are, of course, fast yielding to the more effectual power of machines, which are maintained at less cost, and do their work with more precision. The present employment of elephants in the East is principally confined to the carriage of persons and of

* See the account of Sir Henry Steuart's park at Allanton; Library of Entertaining Knowledge, vol. ii.

† Hakluyt's Collection of Voyages.

‡ Orme's Hindostan, vol. i, p. 198.

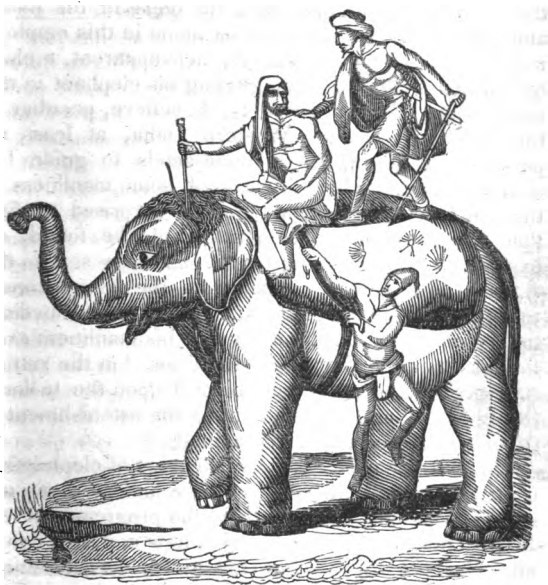
heavy burthens in travelling, and on the march of an army; to field sports; and to processions and ceremonies.

‘At Barrackpoor,’ says Bishop Heber, ‘for the first time I mounted an elephant, the motion of which I thought far from disagreeable, though very different from that of a horse. As the animal moves both feet on the same side at once, the sensation is like that of being carried on a man’s shoulders. A full-grown elephant carries two persons in the ‘howdah,’ besides the ‘mohout,’ who sits on his neck, and a servant on the crupper behind, with an umbrella. The howdah itself, which Europeans use, is not unlike the body of a small gig, but without a head.’* Capt. Williamson, who possessed, probably, much of the sportsman’s desire of rapid motion, says, ‘the gait of an elephant is very peculiar, being similar to the artificial pace of ambling taught to some horses. It is far from displeasing in a horse, but causes such a motion, when mounted on an elephant, as rarely to be borne for any distance. Indeed, I know nothing more uncomfortable and tedious, I may even say painful, than a long journey in a howdah. It occasions a lassitude not to be described. We must suppose that habit reconciles persons to it, as we see the natives travel, for perhaps twenty miles or more in a forenoon, without any apparent uneasiness. The largest elephants are, in general, the most uncomfortable in this respect.’† The smaller elephants are sometimes ridden with a saddle and stirrups. Others have a pad, on which six or eight persons can sit, some astride and some sideways. The animal kneels down, that the riders may ascend; and as he is generally impatient while being mounted,

* Journal, i, 36.

† Oriental Sports, p. 31.

a man puts his foot upon his fore-leg, and sometimes even presses it with a spear.* A ladder is attached to the elephant's side, for the use of those who ride in the howdah. The natives descend from their seats upon the pad by means of a rope.



The guidance of an elephant upon which persons of wealth and authority ride, in British India, is invariably committed to the mohout. In Ava, the practice is different. Mr Crawford says, 'After the

* Oriental Sports, p. 31.

elephant combats were over, the king prepared to take his departure. His elephant, one of the noblest animals I have ever seen, having the trunk, head, and part of the neck, of a white flesh-colour, and in other respects altogether perfect, was brought up close to the shed under which we were sitting, and he mounted it with great agility, placed himself upon the neck of the animal, took the hook in his hand, and seemed to be perfectly at home in this employment. We afterwards saw the heir-apparent, a child of thirteen years of age, guiding his elephant in the same way. This practice is, I believe, peculiar to the Burmans: for, in Western India, at least, no person of condition ever condescends to guide his own elephant. There is, at least, some manliness in the custom; and I should not be surprised to find that the neck of the elephant would be found, on experience, the most agreeable and easy seat to the rider.' The Emperor Akbar, in the same manner, rode every kind of elephant, making them obedient to his command; and he carried his manliness even farther than the Kings of Ava, for, 'in the rutting season, he frequently puts his feet upon the tusks of the elephant and mounts him, to the astonishment of those who are used to these animals.'*

In the present times the employment of elephants in oriental travelling has little of the ancient pomp and splendour which used to attend the progresses of the Mogul princes. A native rajah now and then comes into Calcutta, upon some mission to the British authorities, riding in a magnificent howdah, with his elephant covered with brilliant trappings. But, generally, the stately animal is used for the conveyance of the manifold servants that wait upon the rich in India; or he is laden with tents and tent-

* Ayeen Akbery.

poles, or with water-bottles, and pots, and saucepans, and every other paraphernalia of the kitchen, slung about his body in all directions. His appearance, then, is somewhat more ludicrous than dignified. But in the days of Timour, when the despot rode 'in a chariot with four wheels, upon which is a fair chamber of sweet-smelling lignum aloes, which is within covered with plates of fine gold, dubbed with precious stones and great pearls, and drawn by four elephants;*' or in those of Akbar, when 'magnificent amarees were put upon the backs of swift-paced elephants;† or in those of Jehanghir, who rode on an elephant through the streets of his capital, followed by 'twenty royal elephants for his own ascending, so rich, that in precious stones and furniture they braved the sun,' and whose 'wives, on their elephants, were carried like parakitoes (paraquets), half a mile behind him;‡ in those days the journeys of the elephant were occasions of habitual pomp. The most minute description of these splendours may be found in Bernier's account of the progress of Aurengzebe, from Delhi to Kashmire, in the year 1664.

The perfection of European travelling is extreme speed; the march of this Mogul prince through his dominions was as measured as a funeral pageant. Bernier, after having been two months on the road from Delhi to Lahore, a distance of a hundred and twenty leagues — about the same that an English mail performs in forty-eight hours — says, 'this is indeed slow and solemn marching.' When we consider, however, the retinue with which Aurengzebe moved, we shall cease to wonder at the pace at which he advanced. 'In this march from Delhi to

* Sir John Maundeville.

† Ayeeen Akbery. An amaree, or amari, is a seat with a canopy.

‡ Sir T. Rowe, quoted in Purchas.

Kashmire,' says Bernier, 'there are at least one hundred thousand horsemen, and more than one hundred and fifty thousand animals, comprising horses, mules, and elephants; besides these, there cannot be much less than fifty thousand camels, and nearly as many oxen and horses, employed to carry the wives and children, the grain, and other provisions belonging to the poor people connected with the bazaars, who, when they travel, take with them, like the gypsies, the whole of their families, goods and chattels. The servants in the army must be indeed numerous, since nothing is done without their assistance. Many are of opinion that the camp contains between three and four hundred thousand persons.* The principal uses of the elephants in this enormous throng were to carry 'the most bulky things, such as the large tents, with their heavy pillars;' and to administer to the splendour of the prince and his court. 'Sometimes the king rides on horseback, especially when the weather is favourable for hunting; and at other times he is carried by an elephant, in a mik-dember, or in a hauze, which is by far the most striking and splendid style of travelling, as nothing can surpass the richness and magnificence of the harness and trappings. The mik-dember is a small house, or square wooden tower, gilt and painted; and the hauze, an oval chair with a canopy of pillars, also superbly decorated with colours and gold.†

The mind of Bernier, who appears to have had an uncommon share of the liveliness of the French character, was highly excited by the splendours of the seraglio, in this extraordinary march. He dwells upon the different modes of travelling used by 'the princesses and great ladies;' the gilt and painted 'tchan-

* Travels, ii, 118.

† Travels, ii, 106.

doules which are borne on men's shoulders,' and the 'stately and close palanquins.' But the pageantry of the elephants employed in the conveyance of 'these lovely and distinguished females,'—the costly furniture, the silver bells, the latticed mik-dembers covered with silken nets, the embroidery, and fringes and tassels,—seem to have principally gratified his eager curiosity. 'I cannot avoid,' he says, 'dwelling on this pompous procession of the seraglio. It strongly arrested my attention during the late march, and I feel delight in recalling it to my memory. Stretch imagination to its utmost limits, and you can conceive no exhibition more grand and imposing than when Rochinara Begum (Aurengzebe's sister), mounted on a stupendous Pegu elephant, and seated in a mik-dember blazing with gold and azure, is followed by five or six other elephants with mik-dembers nearly as resplendent as her own, and filled with ladies attached to her household. Close to the princess are the chief eunuchs, richly adorned and finely mounted, each with a cane in his hand; and, surrounding her elephant, a troop of female servants from Tartary and Kashmire, fantastically attired, and riding handsome pad-horses. Besides these attendants are several eunuchs on horseback, accompanied by a multitude of pagys, or lackeys, on foot, with large canes, who advance a great way before the princess, both to the right and to the left, for the purpose of clearing the road, and driving before them every intruder. Immediately behind Rochinara Begum's retinue, appears a principal lady of the court, mounted and attended much in the same manner as the princess. This lady is followed by a third; she by a fourth; and so on, until fifteen or sixteen females of quality pass, with a grandeur of appearance, equipage, and retinue, more or less proportionate to their rank, pay, and office. There is

something very impressive of state and royalty in the march of these sixty or more elephants ; in their solemn, and, as it were, measured steps ; in the splendour of their mik-dcmbers, and the brilliant and innumerable followers in attendance : and if I had not regarded this display of magnificence with a sort of philosophical indifference, I should have been apt to be carried away by the similar flights of imagination as inspire most of the Indian poets, when they represent the elephants as conveying so many goddesses, concealed from the vulgar gaze.* The 'philosophical indifference' to such pageants is to be found in the consideration that they cannot exist but in connexion with despotic power ; and that the splendour of such kings as Timour and Aurengzebe was bought at the enormous price of the liberty and happiness of the people over whom they ruled. The simplicity which is one of the best characteristics of a free government is far less gratifying to the fancy, but it affords an infinitely higher pleasure — it satisfies the reason.

The progresses of the Mogul princes through their dominions were ordinarily connected with the purpose of affording the monarch the pleasures of the chase. They took the field against the antelope and the tiger with the same parade that they went to war. In the camp of Aurengzebe there were tents for choice elephants, and for the animals employed in hunting ; for the birds of prey ; for dogs ; for leopards ; for nyl-ghaus, and Bengal buffaloes ; and even for lions and rhinoceroses, carried only for show. All the uncultivated land on the road was guarded with the utmost vigilance, to preserve the game for the king and

* 'The readers of modern poetry will remember the Introduction to 'Lalla Rookh,' in which the elephants that set out from Delhi are described 'bearing on their backs small turrets, in the shape of little antique temples, within which the ladies of Lalla Rookh lay, as it were, enshrined.'

his nobles, and the severest punishments were inflicted upon those who disturbed it. Human nature is the same, whether in Asia or in Europe; and the great, therefore, have always sought to be exclusive, and to be tyrannical in their exclusiveness. In the reign of Kublai Khan it was 'strictly forbidden to every tradesman, mechanic, or husbandman, throughout his majesty's dominions, to keep a vulture, hawk, or any other bird used for the pursuit of game, or any sporting dog;'—but as the will of the one tyrant was supreme, the game-laws reached even the highest; for no nobleman or cavalier was 'to presume to chase beast or bird, in the neighbourhood of the place where his majesty takes up his residence.*' The king, therefore, had an abundant command of well-stocked domain, sufficient, indeed, to satisfy any admirer of the modern *battu*. The great ambition of the Mogul, in the time of Aurengzebe, was to kill a lion, mounted upon his elephant. Such an event gratified his pride, and was a favourable omen for the state. Bernier has described this ceremony with his usual spirit:—

'But of all the diversions of the field the hunting of the lion is not only the most perilous, but it is peculiarly royal; for, except by special permission, the king and princes are the only persons who engage in the sport. As a preliminary step, an ass is tied near the spot where the gamekeepers have ascertained the lion retires. The wretched animal is soon devoured, and after so ample a meal the lion never seeks for other prey, but, without molesting either oxen, sheep, or shepherd, goes in quest of water, and, after quenching his thirst, returns to his former place of retirement. He sleeps until the next morning, when he finds and devours another ass,

* Marco Polo.

which the gamekeepers have brought to the same spot. In this way they contrive, during several days, to allure the lion, and to attach him to one place; and when information is received of the king's approach, they fasten at the spot an ass where so many others have been sacrificed, down whose throat a large quantity of opium has been forced. This last meal is of course intended to produce a soporific effect upon the lion. The next operation is to spread, by means of the peasantry of the adjacent villages, large nets, made on purpose, which are gradually drawn closer, in the manner practised in hunting nil-ghaus. Every thing being in this state of preparation, the king appears on an elephant barbed with iron, and attended by the grand master of the hunt, some omrahs mounted on elephants, and a great number of gourze-berdars on horseback, and of gamekeepers on foot, armed with half-pikes. He immediately approaches the net on the outside, and fires at the lion with a large musketoon. The wounded animal makes a spring at the elephant, according to the invariable practice of lions, but is arrested by the net; and the king continues to discharge his musketoon, until the lion is at length killed.

‘It happened, however, during the last hunt, that the enraged animal leaped over the net, rushed upon a cavalier, whose horse he killed, and then effected his escape for a time. Being pursued by the huntsmen, he was at length found, and again enclosed in nets. The whole army was on that occasion subjected to great inconveniences and thrown into a considerable degree of confusion. We remained three or four days patrolling in a country intersected with torrents from the mountains, and covered with underwood and long grass that nearly concealed the camels. No bazaars had been formed, and there were no towns or villages near the army. Happy

those who, during this scene of disorder, could satisfy the cravings of hunger! Shall I explain the weighty reason of this long detention in such abominable quarters? You must know, then, that as it is considered a favourable omen when the king kills a lion, so is the escape of that animal portentous of infinite evil to the state. Accordingly, the termination of the hunt is attended with much grave ceremony. The king being seated in the general assembly of the omrahs, the dead lion is brought before him, and when the carcase has been accurately measured, and minutely examined, it is recorded in the royal archives that such a king on such a day slew a lion of such a size and of such a skin, whose teeth were of such a length, and whose claws were of such dimensions.*

We find in the annals of Hindostan that the lion was occasionally hunted without these precautions. Bernier gives us a remarkable instance. Aurengzebe, who was gratified by displays of personal courage, and who had distinguished himself when a youth by attacking an elephant single-handed,† commanded his son, Sultan Mauzum, ‘in a full assembly of omrahs, to kill a lion which had descended from the mountains, and was then laying waste the surrounding country. The grand master of the hunt ventured to hope that Sultan Mauzum might be permitted to avail himself of those capacious nets which are ordinarily made use of in so perilous a chase. ‘He shall attack the lion without nets,’ sternly replied the king. ‘When I was prince I thought not of such precautions.’ An order given in so decisive a tone could not be disobeyed. The prince declined not the fearful undertaking. He encountered and overcame the tremendous beast with the loss of only two or three men; some horses

* Travels, vol. ii, p. 115.

† Dow.

were mangled, and the wounded lion bounded on the head of the Sultan's elephant.*

Marco Polo has recorded, with great minuteness, the mode of the Grand Khan's proceeding to the chase, with his ten thousand falconers, and ten thousand 'tarkaol,' or waiters, whose duty it was to secure the stray falcons. 'On account of the narrowness of the passes in some parts of the country where his majesty follows the chase, he is borne upon two elephants only, or sometimes a single one, being more convenient than a greater number. But under other circumstances he makes use of four, upon the backs of which is placed a pavilion of wood, handsomely carved, the inside being lined with cloth of gold, and the outside covered with the skins of lions—a mode of conveyance which is rendered necessary to him during his hunting excursions, in consequence of the gout with which his majesty is troubled. In the pavilion he always carries with him twelve of his best gerfalcons, with twelve officers, from amongst his favourites, to bear him company and amuse him. Those who are on horseback by his side give him notice of the approach of cranes, or other birds, upon which he raises the curtain of the pavilion, and when he espies the game, gives direction for letting fly the gerfalcons, which seize the cranes and overpower them after a long struggle. The view of this sport, as he lies upon his couch, affords extreme satisfaction to his majesty.' It would be difficult to imagine a more absurd attitude of despotism, than is here described, — a whole district thrown into confusion, useful labours suspended, private property violated by thousands of armed hunters, and the entire population subjected to odious restraints, that a gouty man may look out of his pavilion,

* *Travels*, vol. i, p. 204.

borne upon the backs of four elephants, to see a ger-falcon destroy a crane.

The magnificent hunting expeditions of the Indian princes, which had all the parade and much of the excitement of war, were continued almost to our own times. The Nawaub of Oude, Vizier Ally, or Asoph-ul-Doulah, who was raised to the throne by the assistance of the British government, (he died in 1818,) was a prince of the most profuse expenditure; and his sports were conducted upon a scale that approached even to the splendours of Kublai Khan or Aurengzebe. He generally took the field in the month of March, accompanied by ten thousand cavalry and as many infantry, and from seven to eight hundred elephants. From forty to sixty thousand people followed the camp, with grain and merchandise. When the Vizier set out from his palace at Lucknow, a line was formed with the prince in the centre, mounted on an elephant, with two attendant elephants, one carrying his state howdah, the other his sporting howdah. A line of elephants was prolonged on each side the prince, and was flanked at each extremity by the cavalry. The immense cavalcade proceeded straight through the country, regardless of the mischief that was a necessary consequence, the poor cultivators running after the Vizier, crying aloud for mercy. When any game was started, a continued fire was kept up along the line; and if a herd of antelopes was discovered, the elephants halted, and the cavalry hemmed them in, that his highness and his courtiers might leisurely destroy them. Proceeding in this manner by day, and halting in the evening at appointed stations, where every luxury was prepared in sumptuous tents, the army at length approached the Thibet mountains, where tigers, panthers, leopards, and buffaloes were to be found. An encampment

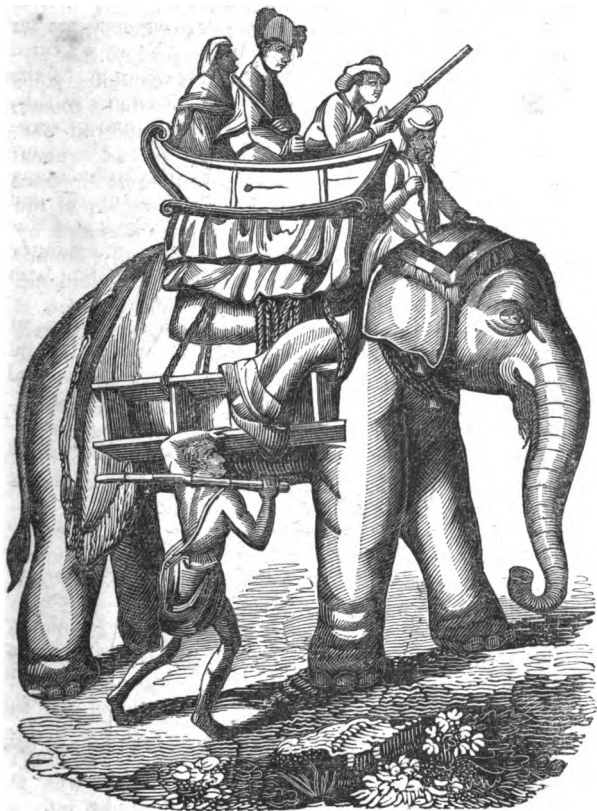
being formed, their sporting was conducted for several weeks upon a grand and formidable scale; and, mounted upon their elephants, the prince and his nobles scoured the country in pursuit of the ferocious beasts that destroyed the flocks and herds of the peasantry. The array of despotism was here of some service; for the number of carnivorous animals that were killed was generally in proportion to the magnitude of the force employed against them.* Such scenes as this, however, belong to another age and system of government than now prevails in British India. The gorgeous power of the native chiefs is gradually vanishing before the quiet strength of European conquest and civilization; and the destruction of the tiger and the leopard is left to such individuals as seek the danger for its excitement, or to the hunter by profession, who perils his life for a small reward.

Although the elephant is not a native of Persia, at the present day, there is tolerable evidence that he was once employed in that country both in war and the chase. On an ancient arch, described by Sir R. K. Porter, are representations in bas-relief, of a boar-hunt, in which some of the riders are mounted on horses, and others on elephants, which are plunging on every side through the marshy bushes.

The elephant is invariably employed in India in hunting the tiger. His delicate scent, his strength to make his way through the thickest covers, his sagacity, and especially his great stature, by which the hunter is lifted out of danger, render him peculiarly fitted for such a work. Horses cannot be brought to follow the track of a tiger; and camels are unable to defend themselves if attacked by the ferocious

* For a minute description of the huntings of Vizier Ally, see Johnson's *Indian Field Sports*, chap. ix.

beast. The hunting party is generally numerous ; and the sportsmen, seated in their howdahs, fearlessly proceed into the jungle, well-armed for the expected combat.



Hunters in a howdah.

Occasionally the hunter, with his rifle, is mounted upon an elephant's back. The presence of the tiger is generally made known by the elephants, which, scenting their enemy, become agitated, and make that peculiar trumpeting which indicates their alarm. If the tiger move, many of the elephants become ungovernable; their trunks are thrown up into the air; if they consent to go forward, their cautious steps evince their apprehensions. Those that remain steady under such circumstances are considered particularly valuable. If the motion of an animal through the jungle is perceived, the nearest elephant is halted, and the rider fires in the direction of the waving rushes. The tiger is sometimes wounded by these random shots; and he then generally bounds through the cover towards the nearest elephant. Very few elephants can then resist the impulse of their fears. If the trunk, which the animal invariably throws up as far as possible out of reach, should be scratched by the tiger, all command is lost. Mr Williamson describes an occurrence of this sort, which happened to two gentlemen of the Bengal army. 'They had been in the habit of killing tigers with only one elephant, on which being mounted, they one day roused a tiger of a very fierce disposition. The animal, after doing some mischief among the dogs, which baited him very courageously, at length darted at the elephant's head; and, though foiled in the attempt to get upon it, nevertheless scratched her trunk severely. No sooner did she feel the tiger's claws penetrating her proboscis, than she turned round, and set off at full speed, roaring most vehemently. She seemed to have lost her senses, and to be bent on mischief: for wherever she saw a living object she pursued it, totally heedless of the mohout's endeavours to guide or restrain her.' She was at length, by fatigue and management, brought into a

Tiger at bay.



governable state, but she was spoiled for tiger hunting. The preceding representation of the tiger at bay is from the Oriental Field Sports.

We extract from Mr Williamson's work an interesting narrative of a remarkable escape, when a tiger sprung upon an elephant, and was destroyed without injury to the animal or its riders: —

‘The tiger had satiated himself upon a bullock he had killed, and lay lurking in the grass, which was as high as the backs of the elephants, and very thick, not far from the remains of the bullock. He was extremely cunning, and crouched so close as to render it for a long time doubtful whether he was in the jungle or not. The symptoms displayed by the elephants, on approaching the place where he lay concealed, induced the party to persevere in their efforts to rouse him. One gentleman particularly urged his mohout to make his elephant beat the spot where the scent was strongest: which being done, in spite of the tremendous tones of the agitated animal, the tiger, finding himself compelled either to resist, or to submit to being trodden upon, sprang upon the elephant's quarter, and so far succeeded as to fix his claws in the pad: his hind legs were somewhat spread, and their claws were fixed into the fleshy membranes of the elephant's thigh. Actuated by the excess of fear, occasioned by so sudden and so painful an attack, the elephant dashed through the cover at a surprising rate; the tiger holding fast by its fore paws, and supported by its hinder ones; unable, however, in consequence of the rapid and irregular motions of the elephant, either to raise himself any higher, or to quit the hold he had so firmly taken with his claws. The gentleman, who had much ado to keep his seat, was precluded firing at his grim companion, as well from his unprecedented situation, as from the great danger of wounding some of the numerous



Tiger springing.

followers, who were exerting the utmost speed of their respective elephants, to come up to his assistance. The constant desire felt by the elephant to get rid of his unwelcome rider, which produced a waving and irregular pace, gave the opportunity, for those who were mounted on light and speedy animals, to overtake the singular fugitives. Another gentleman of the party coming up close, was enabled to choose his position; when, taking a safe aim, he shot the tiger, which fell to the ground and required no farther operations.*

A well-trained elephant has been known to catch the springing tiger upon his tusks. This, however, is a rare accomplishment. If their enemy falls near them, they will instantly kneel upon his body, at the same time transfixing him to the earth. This is partly an effect of instinct and partly of education. They are first familiarized to the appearance of a tiger, by a stuffed skin being thrown in their way, upon which they are taught to trample and kneel. A calf is sometimes put inside the skin; — and then the elephant is indeed terrified. Some become so excessively alarmed, that no threats or entreaties will induce them to go near the object of their dread. Others are more courageous; and these, of course, are selected for occasions of real peril. One of the most difficult operations in this course of instruction is to persuade the elephant to bear a dead tiger on his back. Mr Williamson saw a tiger, which had been insufficiently secured on the back of an elephant, fall off on the way home from the chase: the poor animal was so terrified at the moment, that he resisted every attempt to replace the carcase, and no other elephant in the field would endure the hateful burthen.†

* Oriental Field Sports, p. 72.

† In the first volume of this work, p. 188, will be found a description of a tiger hunt, in which Bishop Heber was engaged.

*Dead Tiger.*

The elephant has an equal terror of the rhinoceros. It appears, from some statements in which Mr Williamson confided, that if a herd of elephants encounter this formidable animal, they retreat, if possible, without hazarding an encounter. Major Lally stated to the author of *Oriental Field Sports*, that he once witnessed, from a distant hill, a most desperate engagement between a large male and a rhinoceros, in which the elephant was worsted and fled.* From

* The cut representing an 'Elephant attacked by a Rhinoceros' is from Capt. Williamson's work.



Elephant attacked by a Rhinoceros.

the Memoirs of Baber, however, we collect that the terror is mutual. 'When we had gone a short way, a man came after us with notice that a rhinoceros had entered a little wood near Bekrâm, and that they had surrounded the wood, and were waiting for us. We immediately proceeded towards the wood, at full gallop, and cast a ring round it. Instantly, on our raising the shout, the rhinoceros issued out into the plain, and took to flight. They followed it for nearly a kos, shot many arrows at it, and finally brought it down. This rhinoceros did not make a good set at any person, or any horse. They afterwards killed another rhinoceros. I had often amused myself with conjecturing how an elephant and rhinoceros would behave if brought to face each other; on this occasion the elephant keepers brought out the elephants so that one elephant fell right in with the rhinoceros. As soon as the elephant-drivers put their beasts in motion, the rhinoceros would not come up, but immediately ran off in another direction.'*

* Memoirs, p. 292.

CHAPTER VIII.

Employment of Elephants in the East, continued.—Exhibitions of Cruelty.—Processions and Ceremonials.

THE delight in brutal sports, which, in all ages and in all countries, has been felt by the multitude—that is, by the high as well as the low vulgar—is too universal to be ascribed to particular conditions of social refinement. Sound knowledge, leading the mind to despise the coarse excitements of unintellectual curiosity, and genuine religion, which teaches us

‘Never to blend our pleasure or our pride
With sorrow of the meanest thing that feels,’

must indeed greatly diminish the popular tendency towards such gratifications. Nevertheless, amongst all nations, that rude exercise of instinctive tyranny, which makes the school-boy torment a chafer, and the ferocious ‘children of a larger growth’ assemble to witness the sufferings of a bear or a badger, still displays itself in a thousand forms of cruelty, in spite of the control of education, the chastisements of law, or the power of public opinion. In tracing the history of particular quadrupeds, it will be necessary to exhibit the infinitely various modes in which a perverse ingenuity has compelled them to administer a barbarous pleasure to the cruel propensities of man. Such inquiries are painful and revolting,—but they

cannot be omitted; for they show, perhaps more forcibly than any other instances, how the sense of right and wrong is deadened by custom; and how, therefore, by the evil power of example, and the nourishment of a heartless sophistry, the most exalted in rank amongst refined nations, — magistrates, statesmen, and even women, whose principal attributes should be delicacy and tenderness — have not only come to look upon public exhibitions of cruelty without abhorrence, but absolutely to rejoice and feel proud in witnessing the fierce contests of animals whose passions have been artificially excited — to be critical in their observance of the prowess of the contending victims — to mark with rapture the glazing eye and the quivering limb of the weaker in the fight — and to shout over the agonies of exhausted nature, with the glory of the savage that has sated his vengeance upon his enemy at the stake.

The elephant, although the mildest and most in-offensive of quadrupeds, has always been a sufferer from this propensity of man to cruel sports. In India, elephants are to this day baited; and the native chiefs and nobles attach great importance to these displays. When Bishop Heber was at the Court of Baroda, 'The Raja,' he says, 'was anxious to know whether I had observed his rhinoceros and his hunting tigers, and offered to show me a day's sport with the last, or to bait an elephant for me; a cruel amusement which is here not uncommon. . . . I do not think he understood my motive for declining to be present. A Mussulman, however, who sat near him, seemed pleased by my refusal, said it was 'very good,' and asked me if any of the English clergy attended such sports. I said it was a maxim with most of us to do no harm to any creature needlessly: which was, he said, the doctrine

of their learned men also.’* At the palace of Jyepoor, says the same humane person, ‘we were shown five or six elephants in training for a fight. Each was separately kept in a small paved court, with a little litter, but very dirty. They were all what is called ‘must,’ that is, fed on stimulating substances to make them furious; and all showed in their eyes, their gaping mouths, and the constant motion of their trunks, signs of fever and restlessness. Their mohouts seemed to approach them with great caution; and on hearing a step they turned round as far as their chains would allow, and lashed fiercely with their trunks. I was moved and disgusted at the sight of so noble creatures, thus maddened and diseased by the absurd cruelty of man, in order that they might for his diversion inflict fresh pain and injuries on each other.’† In the combats of elephants, according to Mr Crawfurd, ‘after a rencontre, which does not last above a few seconds, one of the parties is sure to run away.’ At Ava, the elephants, bearing riders, are fought across a stout paling. They are brought up to the charge with much spirit, but often refuse to engage. They have but one mode of fighting — they butt with the forehead, and endeavour to wound each other with their tusks.‡ Father Tachard, a French jesuit, who visited Siam in 1685, saw elephants fight before the king of that country. The two animals were very furious; but they were so strongly bound to a stake by the hind legs, and the distance between them was so accurately measured, that they could not severely wound each other, but only twisted their tusks together in great wrath. The victor, on these

* Journal, vol. iii, p. 11.

† Journal, vol. ii, p. 405. ‡ Embassy to Ava, p. 306.

occasions, was the animal that first broke his opponent's tusk.* Elephant fights have always been favourite diversions of the princes of India. The emperor Akbar built an amphitheatre for these combats, at Agra.† Robert Covert, an Englishman who travelled in Hindostan in 1609, in his description of Agra, 'tells of elephants fighting before the Mogul, parted with rockets of wild-fire, made round like hoops, which they run in their faces.'‡ This statement would show that the animals, when infuriated, are not easily parted. On the contrary, Bal-dæus, a Dutch minister who lived many years in India, relates that 'the elephants made to fight with one another, before the Great Mogul, manage the combat with a far greater agility and courage than one would imagine, obediently falling to and desisting according to the word given, and embracing one another lovingly with their trunks, as soon as they are commanded to end the combat.'§ Pliny says, that thirty elephants on a side, which king Bocchus brought to combat each other, refused to fight;|| and this passage offers a confirmation of Mr Crawford's assertion, that they are not pugnacious. Bernier, however, who was a very careful observer, corroborates the statement of Robert Covert; and this picture of an elephant fight, by an eye-witness of undisputed veracity, would show that the elephants of Ava, which Mr Crawford saw, have not the courage of the species in other parts of Asia. The passage in Bernier is very curious: —

'The festivals generally conclude with an amusement unknown in Europe, — a combat between two

* Hist. Gen. des Voyages, vol. ix, p. 151. † Ayeen Akbery.

‡ Purchas, vol. i, p. 601. § Phil. Trans. 1671.

|| Hist. Nat., lib. viii, chap. 5.

elephants; which takes place in the presence of all the people, on the sandy space near the river; the king, the principal ladies of the court, and the om-rah's, viewing the spectacle from different apartments in the fortress.

‘A wall of earth is raised three or four French feet wide, and five or six high. The two ponderous beasts meet one another face to face, on opposite sides of the wall, each having a couple of riders, that the place of the man who sits on the shoulders, for the purpose of guiding the elephant with a large iron hook, may immediately be supplied if he should be thrown down. The riders animate the elephants either by soothing words, or by chiding them as cowards, and urge them on with their heels, until the poor creatures approach the wall and are brought to the attack. The shock is tremendous, and it appears surprising that they ever survive the dreadful wounds and blows inflicted with their teeth, their heads, and their trunks. There are frequent pauses during the fight; it is suspended and renewed; and the mud wall being at length thrown down, the stronger or more courageous elephant passes on and attacks his opponent, and putting him to flight, pursues and fastens upon him with so much obstinacy, that the animals can be separated only by means of cherkys, or fire-works, which are made to explode between them; for they are naturally timid, and have a particular dread of fire, which is the reason why elephants have been used with so very little advantage in armies, since the use of fire-arms. The boldest come from Ceylon, but none are employed in war which have not been regularly trained, and accustomed for years to the discharge of muskets close to their heads, and the bursting of crackers between their legs.

‘The fight of these noble creatures is attended with much cruelty. It frequently happens that some of the riders are trodden under foot, and killed on the spot, the elephant having always cunning enough to feel the importance of dismounting the rider of his adversary, whom he therefore endeavours to strike down with his trunk. So imminent is the danger considered, that on the day of combat the unhappy men take the same formal leave of their wives and children, as if condemned to death. They are somewhat consoled by the reflection that if their lives should be preserved, and the king be pleased with their conduct, not only will their pay be augmented, but a sack of peyssas (equal to fifty francs) will be presented to them the moment they alight from the elephant. They have also the satisfaction of knowing that, in the event of their death, the pay will be continued to the widows, and that their sons will be appointed to the same situation. The mischief with which this amusement is attended does not always terminate with the death of the rider: it often happens that some of the spectators are knocked down, and trampled upon by the elephants, or by the crowd; for the rush is terrible when, to avoid the infuriated combatants, men and horses in confusion take to flight. The second time I witnessed this exhibition, I owed my safety entirely to the goodness of my horse, and the exertions of my two servants.’*

The barbarous sports of the amphitheatre appear to have furnished the chief amusements of the luxurious princes of the Mogul empire. About the middle of the seventeenth century, ‘the daily diversions of the Mogul, except on Fridays, were to see the lions, leop-

* *Travels*, vol. i, p. 314.

THE MENAGERIES.

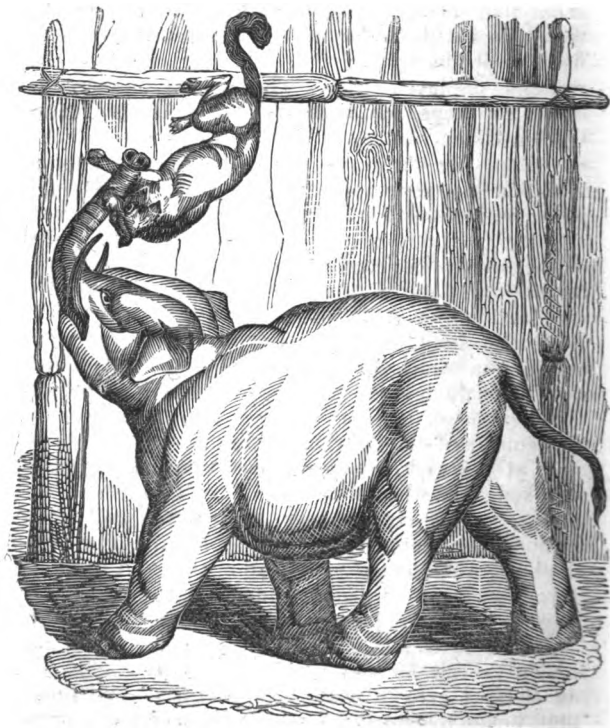


Elephant cutting a horse.

ards, tigers, and elephants fight with each other.* These exhibitions were varied in every mode that an ingenious cruelty could devise. 'Some elephants,' says Covert, 'fight with wild horses, six horses to an elephant, which he kills with claspings his trunk about their necks, and, pulling them to him, breaks their necks with his teeth.' It is not uncommon to fight elephants with tigers. The accounts of the courage displayed by the elephant on these occasions are somewhat contradictory. At Saigon, in Cochin-China, a combat of this nature was exhibited before Mr Crawford, where the tiger was muzzled and his claws torn out, and yet the first elephant was wounded and put to flight. The tiger was at length killed by successive tosses upon the tusks of his adversaries; and when he was perfectly dead, an elephant seized the carcase with his proboscis, and threw it to a distance of thirty feet. Father Tachard, on the contrary, saw a similar fight at Siam, in which the tiger was wounded and driven away upon the first onset. These differences in conduct doubtless arise, in some degree, from differences in the tempers of the individual animals. At the lion-fight at Warwick, one lion played with the dogs that attacked him, while the other destroyed them in an instant. Different degrees of training may also produce considerable varieties of behaviour in the elephant, when he encounters an enemy. A strange terror is always the most formidable to him. 'An English dog seized an elephant by the trunk, and kept his hold so fast, that the elephant, having tossed him in the air for some time, at last swung him off, but did not care to come near him a second time. This being told to the Mogul, enhanced the reputa-

* Albert de Mandelsloe's Travels,

tion of the English dogs; they were carried about in palankines along with his majesty: and he fed them himself with a pair of silver tongs made for that purpose.* Pliny tells us of two remarkable



Elephant baited.

* Barclay, Universal Traveller.

dogs that were given by the king of Albania to Alexander the Great (Strabo says they were Indian dogs), one of which vanquished a lion and afterwards an elephant. [According to the naturalist the dog was most alarmed at the largest enemy. His hair stood up, he barked in a fearful manner, but at length rushed at the enormous animal, attacking him on every side, and fairly wearing him out by the rapidity of his assaults. The elephant at length fell exhausted on the ground.*

It is unnecessary to offer any further instances of the depraved taste which excites a generous and docile animal to such encounters; nor shall we discuss whether he possesses a courageous temper, because he often shrinks from contests which are evidently revolting to his nature. The elephant is a peaceful animal; his strength enables him to defend himself against ordinary enemies, but he has no disposition to attack. The reason is evident. He subsists upon vegetable food, and therefore he has neither the desire to destroy life which belongs to the carnivorous animals, nor the means of gratifying such a desire. The cruelty which forces him into such combats is, for this reason, greater than that which excites animals to fight that are naturally pugnacious; but, in either case, the principle of brutality is the same.

It is agreeable to turn from scenes which are hateful to the quadruped, to behold him engaged in peaceful pageants which afford him gratification. Associated with human slaves in administering to the pomp of Asiatic despotism, the elephant is not only reconciled to captivity, but is proud and satisfied. He is pampered and caressed — he has little labour to perform — his chains are gilded. He serves a tyrant, but he does not feel the tyranny; and he is happier than

* Plinii Hist. Nat., lib. viii, c. 40.

the nabob whom he carries, for he has no dread of the power which obeys no law but its own caprice, when it raises to a throne, or degrades to a dungeon.*

In British India the elephant is rarely seen upon occasions of ceremony, except at the courts of those native princes who still possess any independent authority. An adequate idea of the splendour derived from their employment in a procession may be obtained from a brilliant panorama of Calcutta now (1830) exhibiting in London. Their general use at Calcutta, or within five miles of it, is, however, prohibited, on account of the frequent accidents which they occasion by frightening horses.† In the hideous ceremonials of Juggernaut elephants are used. Five elephants precede the car of the idol, 'bearing towering flags, dressed in crimson caparisons, and having bells hanging to their caparison.'‡ When the two sons of Tippoo were received as hostages by Lord Cornwallis, 'they were each mounted on an elephant, richly caparisoned, and seated in a silver howdah.'§ At Vizier Ally's wedding, in 1795, 'the procession was grand beyond conception; it consisted of about twelve hundred elephants, richly caparisoned, drawn up in a regular line, like a regiment of soldiers. About one hundred elephants in the centre had howdahs, or castles covered with silver: in the midst of these appeared the nabob, mounted on an uncom-

* The nabob 'was called to court, kept there, or translated into another government whenever the ministry thought these changes necessary; and there was a time when they were so frequent, that a new nabob left Delhi riding, contrary to the usual manner, with his back turned to the head of his elephant, and gave for a reason that he was looking out for his successor.' — *Orme's Hindostan*.

† Heber, i, p. 37.

‡ Buchanan.

§ Mill's British India, book vi, chap. 4.

monly large elephant, within a howdah covered with gold, richly set with precious stones.* It was a custom with the Moguls to have their elephants and horses daily paraded before them. Bernier has described this ceremony at the court of Aurengzebe, and Sir Thomas Rowe at that of Jehanghir. 'His greatest elephants were brought before him, some of which, being lord elephants, had their chains, bells, and furniture of gold and silver, attended with gilt banners and flags; and eight or ten elephants waiting on him, clothed in gold, silk, and silver. Thus passed about twelve companies, most richly furnished; the first elephant having all the plates on his head and breast set with rubies and emeralds, being a beast of a wonderful stature and beauty. They all bowed down before the king.† Bernier has explained the machinery which produces this reverence of the elephants for their mighty master. 'When in front of the throne, the driver, who is seated on his shoulder, pricks him with a pointed iron, animates and speaks to him, until the animal bends one knee, lifts his trunk on high, and roars aloud.‡'

The Emperor of China was not so profuse in his displays of elephant pomp as the princes of India. At Pekin Mr Bell saw an ingenious contrivance, by which, as often occurs in the processions of the stage, a great effect is produced by very scanty means. 'After dinner,' he says, 'we saw the huge elephants, richly caparisoned in gold and silver stuffs. Each had a driver. We stood about an hour admiring these sagacious animals, who, passing before us at equal distances, returned again behind the stables, and so on, round and round, till there seemed to be

* Annual Biography and Obituary for 1819.

† Purchas.

‡ Travels, i, 298.

no end to the procession. The plot, however, was discovered by the features and dress of the riders: the chief keeper told us there were only sixty of them.* Isbrand Ides, when at the court of China, saw four enormous elephants, with a fine carved wooden castle, spacious enough to hold eight persons, on the back of each. At the grand feast in China, on new year's day, A.D. 1420, the elephants, according to an eastern account of the embassy from Shah Rohk, son of Tamerlane, to the Emperor of China, were adorned with a magnificence not to be expressed, with silver seats and standards, and armed men upon their backs. Fifty of them, says this narrative, carried the musicians; these were preceded or followed by fifty thousand, in profound silence and order. This vast number is either an oriental hyperbole, or the same trick was played upon the Shah's ambassadors as upon Mr Bell. When a letter from Queen Elizabeth was sent to the King of Sumatra, 'the greatest elephant, being thirteen or fourteen feet high, had a small castle like a coach, covered with velvet, on his back, in which was placed a great golden basin, with a rich covering of silk, wherein the latter was laid.† Elephants are used in other idolatrous ceremonies than those of Juggernaut. Knox, describing the great annual festival at the city of Candy, mentions a procession of elephants bearing priests carrying painted sticks and umbrellas.

The elephant, in India, has usually been the minister of despotic justice. The emperor Akbar, says Purchas, 'on Tuesday, sits in judgment, and hears both parties with patience. He sometimes sees, with too much delight in blood, the executions done by his elephants.' Shah-Jehan terrified the

* Bell's *Travels*, chap. ix.

† Purchas.

Portuguese residents at Hoogly, by the daily threat of throwing them under the elephants' feet, unless they would renounce the Christian faith.* Knox, in his account of Ceylon, says, 'the king makes use of them for executioners: they will run their teeth through the body, and then tear it in pieces, and throw it limb from limb. They have sharp iron spikes with a socket with three edges, which they put on their teeth at such times; for the elephants that are kept have all the ends of their teeth cut to make them grow the better, and they do grow out again.' The custom was kept up at Ceylon till our conquest of that island. Bishop Heber says, 'I preached, administered the sacrament, and confirmed twenty-six young people in the audience hall of the late king of Candy, which now serves as a church. Here, twelve years ago, this man, who was a dreadful tyrant, and lost his throne in consequence of a large party of his subjects applying to General Brownrigge for protection, used, as we were told, to sit in state to see those whom he had condemned trodden to death, and tortured by elephants trained for the purpose.' Whatever be the faults of our government in India, it is cheering to know that, through the greatest portion of that vast country, the decrees of an equal law are substituted for the will of tyrants, the best even of whom may be described, in the forcible language of Knox, as one who 'sheds a great deal of blood, and gives no reason for it.'

'When the king of Siam goes to court,' says Tavernier, 'he has a train of two hundred elephants, among which, one is white.' His Majesty of Siam, who is described in his official titles as 'a king who has all emperors, kings, princes, and sovereigns in

* Bernier, vol. i, p. 198.

the whole world, from the rising to the going down of the sun, under subjection,' doubtless derives this wonderful power from his elephant possessions. The same titles exhibit him as 'a king that hath elephants with four teeth, red, purple, and pied; — elephants, ay, and a Byytenaques elephant, for which God hath given him many and divers sorts of apparel, wrought with most fine gold, ennobled with many precious stones; and, besides these, so many elephants used in battle, having harnesses of iron, their teeth tipped with steel, and their harnesses laid over with shining brass.' But the greatest dignity of this illustrious monarch is that he is 'king of the white elephant, which elephant is the king of elephants, before whom many thousands of other elephants must bow and fall upon their knees.'* The white elephant, for the possession of which there was perpetual war between the kings of Siam and Pegu, and Aracan, in the sixteenth century — for which five kings lost their lives, and many thousands of their subjects were slaughtered — is an Albino — that is, an animal made white by disease.† White elephants, though extremely rare, were known to the ancients. Horace mentions the white elephant in his *Epistles*. Democritus would laugh at the populace,

Whether a beast of mix'd and monstrous birth
Bids them with gaping admiration gaze,
Or a white elephant their wonder raise.

FRANCIS.

The commentators explain the passage by stating that it was customary to exhibit to the people a cameleopard or a white elephant.‡ *Ælian* speaks of one,

* *Struy's Travels*; quoted in the *Notes to Southey's Curse of Kehama*.

† See *Menageries*, vol. i, p. 100.

‡ *Epist. lib. ii, ep. i, v. 194, &c.*

whose mother was black. They are often mentioned in oriental history. Mamood, in the eleventh century, had a white elephant, and, when mounted upon that animal during an engagement, he esteemed it as a certain pledge of victory.* Travellers in the East have constantly observed the white elephants of the princes of India beyond the Ganges. The following account is by the Englishman Fitch:—

‘ Within the first gate of the palace is a very large court, on both sides of which are the houses for the king’s elephants, which are wonderfully large and handsome, and are trained for war and for the king’s service. Among the rest, he has four white elephants, which are so great a rarity, no other king having any but he; and were any other king to have any, he would send for it, and if refused would go to war for it, and would rather lose a great part of his kingdom than not have the elephant. When any white elephant is brought to the king, all the merchants in the city are commanded to go and visit him, on which occasion each individual makes a present of half a ducat, which amounts to a good round sum, as there are a vast many merchants, after which present you may go and see them at your pleasure, although they stand in the king’s house. Among his titles, the king takes that of king of the white elephants. They do great honour and service to these white elephants, every one of them having a house with gold, and getting their food in vessels of gilt silver. Every day when they go to the river to wash, each goes under a canopy of cloth of gold or silk, carried by six or eight men, and eight or ten men go before each, playing on drums, *shawms*, and other instruments. When each has washed and is come out of

* D’Herbelot.

the river, he has a gentleman to wash his feet in a silver basin, which office is appointed by the king. There is no such account made of the black elephants, be they never so great, and some of them are wonderfully large and handsome, some being nine cubits high.'

'Some tell of this white elephant,' says Purchas, ' (for so they speak as if there were but one, whereas Fitz-Balli and Frederike saw four, but it seems one was of principal estimation) that it was observed with no less honour than the king, and came not abroad without great pomp. It had been a dismal and disastrous beast to five or six kings.' Tachard, who saw at Siam this individual white elephant who had been the occasion of such bloodshed, says that he was small and very old — they said three hundred years. He was attended by a hundred men, who fed him out of vessels of gold, and he lived in a splendid pavilion. This elephant being well stricken in years, the king of Siam had looked out for a successor; — and a young one, which had been presented to him by a neighbouring potentate, was kept at his country palace with the same care and splendour.*

In Major Snodgrass's Narrative of the recent Burmese war, it is stated that the government of the Birman empire was 'so completely influenced and guided by signs and omens, that an unusual grunt from the white elephant was at all times sufficient to interrupt the most important affairs, and cause the most solemn engagements to be broken off.' The white elephant, in this particular, retained his ancient influence; — but Mr Crawfurd thinks that the veneration paid to this pampered idol of pride and superstition has been much exaggerated. His account of

* Hist. Gen. des Voyages.

the present condition of the white elephant of Ava is very interesting: —

‘ Some of the elephants were very noble animals; but our attention was chiefly attracted by the celebrated white elephant, which was immediately in front of the palace; it is the only one in the possession of the king of Ava, notwithstanding his titles: whereas his majesty of Siam had six when I was in that country. The Birman white elephant was rather of a cream than a white colour, and by no means so complete an Albino as any one of those shown to us in Siam. To the best of my recollection, however, it was larger than any of the latter: it had no appearance of disease or debility; and the keepers assured us that its constitution was equally good with that of any of the common elephants. This animal was taken in 1806, when young, in the forests of Pegu, at a place called Nibban, which is about twelve miles distant from the old city, and was now about twenty-five years old; it is the only white elephant which has been taken in the Birman dominions for many years, with the exception of a female, caught two years before it, in the forests of Lain. Several of a light tint, but not deserving the name of white, have been taken within the last twenty years.

‘ I had here an opportunity, as well as in Siam, of ascertaining that the veneration paid to the white elephant has been, in some respects, greatly exaggerated. The white elephant is not an object of worship, but it is considered an indispensable part of the regalia of sovereignty. Royalty is incomplete without it; and the more there are, the more perfect is the state of the kingly office considered. Both the court and people would consider it as peculiarly inauspicious to want a white elephant; and hence the repute in which they

are held, and the anxiety to obtain them: the capture of a white elephant is consequently highly rewarded. The present one was first discovered by four common villagers, each of whom received two thousand five hundred ticals in money, and offices, titles, and estates.

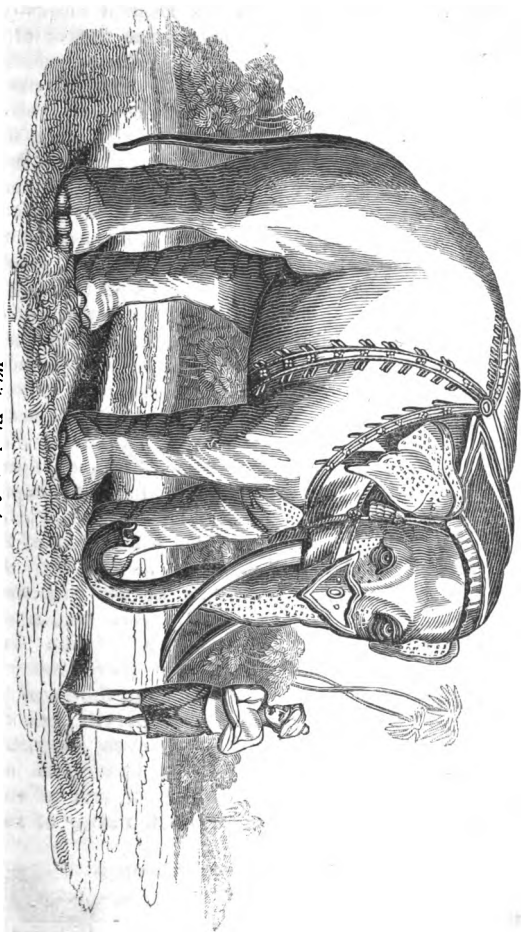
‘While we were at Ava, a report was brought that a white elephant had been seen; but it was stated, at the same time, that its capture and transport on a sledge over the cultivated country would be accompanied by the destruction of ten thousand baskets of rice. His majesty is said to have exclaimed more with the enthusiasm of an amateur, than the consideration of a patriot king, ‘What signifies the destruction of ten thousand baskets of rice, in comparison with the possession of a white elephant?’ and the order was given for the hunt.

‘The lower orders, however, it must be observed, perform the *shiko*, or obedience of submission to the white elephant; but the chiefs view this as a vulgar superstition, and do not follow it. When the present elephant was taken, the event was considered a joyous one; and the late king, who was fond of money, taking advantage of the circumstance, issued an order to the tributaries and chiefs, to ask pardon of the white elephant (*Ka-dau*), accompanied, of course, by the usual presents, which his majesty deposited in his coffers.

‘The establishment of the white elephant is very large; he has his *Wun*, or Minister; his *Wun-dauk*, or Deputy to that officer; his *Saré-gyi*, or Secretary, &c, with a considerable endowment of land for his maintenance. In the late reign, *Sa-len*, one of the finest districts in the kingdom, was the estate of the white elephant.’*

* *Crawford’s Embassy to the Court of Ava*, p. 141.

White Elephant of Ava.



The veneration which, in the Birman empire, is paid to the white elephant, is in some degree connected with the doctrine of the Metempsychosis. Xaca sustained seventy thousand transmigrations through various animals, and rested in the white elephant.* The general superstitions respecting the quadruped, which, more or less, prevail throughout Asia, have doubtless had some additional influence upon this particular homage. These superstitions have reference to the elephant's great stature and his character for sagacity. The Hindoo mythology teaches that the earth is supported by eight elephants. Bernier witnessed a curious dialogue between an aga at the court of Delhi, and a Pundit Brahmin, in which the latter, with the nauseous flattery that pervades all ranks in India, concluded an harangue with these words: 'When, my lord, you place your foot in the stirrup, marching at the head of your cavalry, the earth trembles under your footsteps; the eight elephants, on whose heads it is borne, finding it impossible to support the extraordinary pressure.† In the Ramayuna, one of the most celebrated of the sacred books of the Brahmins, we have a long description of a party of men who, having penetrated into the interior of the earth, had a very satisfactory audience of these eight potentates. 'The sixty thousand descended to Patala, and there renewed their digging. There, O chief of men, they saw the elephant of that quarter of the globe, in size resembling a mountain, with distorted eyes, supporting with his head this earth, with its mountains and forests, covered with various countries, and adorned with numerous cities. When, for the sake of rest,

* Kircher ; *China Illustrated*, chap. iv.

† *Travels*, vol. i, p. 302

O Kakoctstha ; the great elephant, through distress, refreshes himself by moving his head, an earthquake is produced. Having respectfully circumambulated this mighty elephant, guardian of the quarter, they, O Rama! fearing him, penetrated into Patala. After they had thus penetrated the east quarter, they opened their way to the south. Here they saw that great elephant Muhapudma, equal to a huge mountain, sustaining the earth with his head. Beholding him, they were filled with surprise; and after the usual circumambulation, the sixty thousand sons of the great Sugura perforated the west quarter. In this these mighty ones saw the elephant Soumanuca, of equal size. Having respectfully saluted him, and inquired respecting his health, these valiant men, digging, arrived at the north. In this quarter, O chief of Ruzhoo! they saw the snow-white elephant Bhudra, supporting this earth with his beautiful body.* The remainder of the passage details the visits to the other four elephants, in a similar strain.

But the sagacity of the elephant, as well as his strength, has formed a prominent part of the fanciful mythology of the Hindoos. Ganesea, the God of Wisdom, is represented in the temples throughout India, with a human body and an elephant's head. It is remarkable that on several ancient medals the head of Socrates is found united with that of an elephant, in connexion also with one and sometimes two other heads. This fact has given rise to some controversy, as such subjects must do, when there is no direct historical evidence to elucidate their obscurity. Some suppose that the medals are emblems of wisdom; others that they are only the signs of money-changers. Chifletius, an antiquarian writer,

* Notes to Southey's *Curse of Kehama*.

explains the following medal as referring to the trial of Socrates, stating that the other two heads are those of his accusers, Anytus and Melitus; that the elephant's head, and the caduceus in the trunk, denote the strength of his wisdom, and that the legend means 'Confidently.' The Greek word does not bear this interpretation; and is probably the name



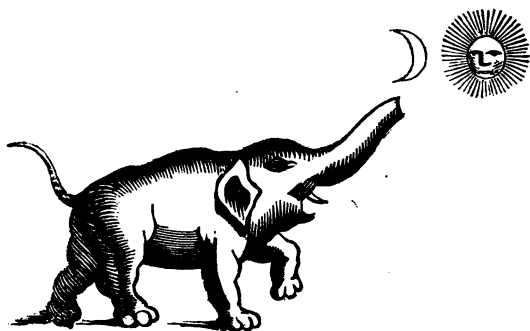
of the artist.* We subjoin a copy of this medal as a mere curiosity, without attempting to solve the disputes regarding its meaning. — The inquiry is probably as worthless as many other antiquarian puz-

* See Cuper de Elephantis, Ex. i, chap. x.

zles, which have occupied scholars in discussions not the most useful to mankind.

The Persians have a festival, according to Charadin, to commemorate the wonderful sagacity, or rather inspiration, of an elephant, when Abraha, a prince of Yemen, marched an army to destroy the Kaaba of Mecca, the sacred oratory which Abraham built in that city. Before the birth of Mohamed the Arabians reckoned from this epoch, which they called the year of the coming of the elephants. Sale's version of this story is amusing. 'The Meccans, at the approach of so considerable a host, retired to the neighbouring mountains, being unable to defend their city or temple. But God himself undertook the defence of both. For when Abraha drew near to Mecca, and would have entered it, the elephant on which he rode, which was a very large one, and named Mahmud, refused to advance any nigher to the town, but knelt down whenever they endeavoured to force him that way, though he would rise and march briskly enough if they turned him towards any other quarter; and while matters were in this posture, on a sudden a large flock of birds, like swallows, came flying from the sea-coast, every one of which carried three stones, one in each foot and one in its bill; and these stones they threw down upon the heads of Abraha's men, certainly killing every one they struck.*' The notion that the elephant was a religious animal has been very general, not only in the East, but amongst the enlightened nations of antiquity. In Kircher's description of China there is a plate of an elephant worshipping the sun and moon, copied from one of the sacred pictures of the Chinese: —

* Sale's Koran, vol. ii, p. 510.



The editor of the French translation of the Natural History of Pliny engages to prove that the name of the elephant, in all languages, signifies child of the sun, or animal consecrated to the sun. The only instances he gives in support of this assertion are, that in the Slavonic language the animal is called *slon*, the sun being *slonce*; and in some oriental tongues *oriflan*, from which *olifante* and *elephant*. The Roman superstition of the religion of the elephant is mentioned by Plutarch, Ælian, and Pliny. We extract the passage from the latter:

‘We find in him qualities which are rare enough amongst men — honesty, prudence, equity; religion also, in his worship of the sun and moon. Authors say, that in the forests of Mauritania, the elephants, at the sight of the new moon, descend in troops to a certain river called Anelo, where they solemnly wash themselves, and after having rendered their homage to the star, return to the woods, supporting the young ones that are fatigued.’* There is a Neapolitan

* Hist. Nat. lib. viii, cap. 1.

medal, supposed to be antique, representing an elephant standing before the tripod of Apollo, on which the sacrificial fire is burning.*



Cardinal Zabarella caused a coin to be struck, representing the pretended religion of the elephant. All these superstitions have evidently grown out of an exaggerated notion of the animal's sagacity ; and they have been spread amongst mankind by that love of the marvellous which always accompanies a very small degree of knowledge.



* See Cuper, Ex. i, cap. ix.

CHAPTER IX.

Employment of Elephants in the Wars of Modern Asia.

THE horse, the camel, and the elephant, are each intimately connected with the history of mankind. The use of the first is unquestionably the most universal. In every stage of civilization in which the animal has been known, has he been found of the most paramount utility. In peace or in war, — for luxury or for necessity, — with the Arab of the desert or the European of the town, — are his services equally required. He was as necessary to the outfit of armies, when ‘the light-armed troops’ of the Parthian city,

‘flying, behind them shot
Sharp sleet of arrowy showers against the face
Of their pursuers, and o’ercame by flight,’* —

as at the last mighty battle that exhibited the fierce and foolish hatred of the most refined nations of the world. The employment of the camel is limited to particular regions, where his strength and his powers of endurance supply the only link by which nations, separated by nature, are enabled to interchange the products which are essential to their common welfare. The elephant of the present day holds an inferior rank in the scale of usefulness to either the horse or the camel. He is valuable, but not indispensable. But there was a long period in the history of the Asiatic nations, and a briefer one in that of the Greeks and Romans, when elephants not only

* Paradise Regained.

administered to the pomp of luxurious courts, and offered the most essential services in the operations of commerce, but were as much an 'arm of war' as the artillery of modern Europe, 'which is, as it were, in their stead in a day of battle.'* The tactics of modern times have necessarily dispensed with the services in the field of an animal that, however powerful in an attack upon dense masses of half-disciplined troops, armed only with the scimeter and the spear, became unmanageable when he was assailed by musketry, and, in his terror of fire-arms, spread destruction equally amongst friends and enemies. We shall trace the elephant through his present partial employment in an Indian army, to the times when he constituted much of the strength of the Moguls; and then proceed to his history in those more remote periods when he was associated with the destinies of the mightiest empires of antiquity.

The elephants of an Anglo-Indian army of the present day are principally used to carry the heavy tents. A camp in Asia is very differently arranged to one in Europe. The quantity of baggage which accompanies even a small number of fighting men is enormous. Every supply that may be required during a campaign is carried with the army. The animals employed in this service are camels, bullocks, and elephants. When it is considered that every officer is attended by a considerable number of servants, — that the camp is followed by dealers in every commodity, who extract large profits out of the necessities or vanities of the Europeans, — and that the retinue of the commander is (or at least was, till very recently) upon the same scale of splendour as that of the native princes — the number of animals required to administer to all these real and artificial wants

* Montaigne, book ii, c. 12.

must be enormous. When the Marquis of Cornwallis took the field, during the war with Tippoo, his followers amounted, it is said, to near half a million.*

Such a train appears, to a certain extent, essential to an Asiatic army. This circumstance will account for the hostile swarms which Xerxes brought into Greece; and, without any disparagement of the valour which triumphed at Thermopylæ, our wonder at the defeat of several millions by a few thousands will be greatly diminished, when we consider that a very large proportion of those millions were just such a cavalcade as followed Aurengzebe on his march from Delhi, and that the thousands were hardy warriors, unincumbered with any useless throngs of servants, and therefore moving to victory with rapidity and compactness. The subject of the mode in which an Asiatic camp is composed, is curious in many points of view;—and we therefore willingly extract a passage, in illustration, from the amusing Memoirs of Lieutenant Shipp:—

‘My post of baggage-master being a situation which is, I believe, peculiar to India, it may not be improper to state its duties. He is a staff-officer, and, when not employed in his particular department, is attached to the suite of the commander of the division, as much as the commissary-general, quartermaster-general, or any other staff-officer of the division. On the line of march, he is held entirely responsible that neither men nor baggage precede the column of march, and that they are on their proper flank, which is regulated by the general orders of the day. If the reader recollect what I before stated, that he may safely calculate ten followers in a Bengal army to every fighting man,—and when he is informed that, according to calculations made in


* Tennant's Indian Recreations.

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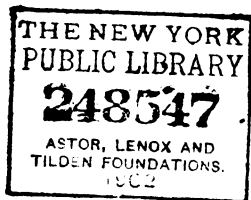
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THE MENAGERIES.

CHAPTER. I.

INTRODUCTION.

NATURAL History has been called the science of observation, as distinguished from other sciences which are founded upon calculation or experiment. From this peculiarity, Natural History is, in many respects, the most easily pursued, and the most agreeable in the pursuit, of all the various branches of human inquiry and study. Its limits as a science are almost boundless ; for scientific naturalists are daily adding some new or uncommon specimen to our previous collections of animal, vegetable, or mineral nature. At the same time, every detached object of this science—every quadruped, bird, reptile, fish, worm, or insect—every flower—every piece of metal, crystal, or stone—not only excites greater interest, when we have acquired, by careful investigation, a knowledge of its properties, but leads the mind forward to new subjects of curiosity. As an *observer of nature*, every man has it in his power to become a naturalist in a greater or less degree.

Although every one possesses this power, and has thus abundant opportunities of adding largely to his stock of intellectual enjoyment, there are many who pass through life without the slightest regard to those

wonders and beauties of the creation by which they are surrounded. It is the distinction between the savage and the civilized man that the one has no respect for the qualities of the living beings or inanimate substances among which he is placed, except as they minister to his physical wants ;—whilst the other, without neglecting their subservience to his necessities or comforts, views them likewise with reference to all the conditions of their existence—considering each variety of the whole world of Nature, whether separately or in groups, whether individually perfect or in parts, as affording the most striking illustrations of the extraordinary adaptation of every existing thing to the purposes for which it was created—the most complete proofs of the wisdom and goodness of the Creator. This distinction between the savage and the civilized man has been produced by habit and education. The savage has constantly to seek the precarious means of maintaining life ; for he has not learnt those useful arts, and those combinations of individual power, by which a supply of food and raiment is systematically provided for the necessities of society. Men advanced in civilization have the full advantages, first, of the division of labour, by which those whom habit has rendered expert are enabled to supply our necessary wants, for instance, of clothing ; and secondly, of mechanical power, by which many operations are rendered short and easy, which would otherwise be tedious and laborious. It is from these circumstances that we have all some leisure to acquire knowledge ; whilst the general stock of information which is possessed by society is insensibly diffused amongst all its members, and reaches even the minds of the most uncultivated.

It is thus the positive duty of all to acquire knowledge,—by observation, by reflection, by reading, by listening to the informed ; for the greater the portion

of the general stock of knowledge which each individual is enabled to acquire, the more is his own well-being promoted, and the more is society benefited. Knowledge is not limited in its quantity, and is not, in our times, of necessity confined to particular classes. Every one, however humble, may appropriate to himself some of its most valuable treasures ; for its stores are always large enough for the supply of every demand, and the more they are drawn upon, the more inexhaustible appears to be the fund from which they are derived.

The first step in the successful communication of any branch of knowledge is to awaken the attention of the mind to the object, or assemblage of objects, to which that branch of knowledge applies. Without a habit of attention to the things around them, men walk about in the world with their eyes half shut ; for they are insensible to all but the commonest external appearances, and have no perception of the minuter peculiarities which distinguish one class of objects from another, of the beauties of their structure, or of the harmonies of their arrangement. Take an example : engaged as we are in the ordinary pursuits of life, in our business and in our pleasures, it is but rarely that we bestow attention upon those most stupendous works of a ruling Providence—the sun, the planets, the myriads of stars,—of which it might be thought that the bare contemplation would awaken in us a feeling of unbounded wonder and admiration. It is only when some singular appearance of those vast and glorious bodies presents itself—when we behold an eclipse or a comet—that the greater number of us have our attention excited to the objects with which the science of Astronomy is conversant. It is at such moments that the accidental awakening of our attention should be seized upon by us, to acquire the particular knowledge relating to the circum-

stance by which the spirit of inquiry was roused ; for we may reasonably entertain a conviction, that if we refer to some intelligent instructor, or seek for an explanation in some proper book, we shall not only satisfy ourselves upon the point in doubt, but be led forward to feel an interest in many other details which would lay the foundation of a scientific knowledge of the laws which govern the heavenly bodies. This would be to acquire the *habit* of bestowing attention upon a subject which we had previously disregarded ; and we should find this habit a source of infinite amusement and instruction—not confined, as we might have thought, to those who survey the heavens from splendid observatories, and with the help of the most perfect glasses, but equally capable of affording delight and being of use to the wayfaring man who plods onward to his home, and to the labourer who rises to his work before the morning star has disappeared. There will be delight wherever there is this habit of observation. But the habit will not come if we do not cultivate the spirit of inquiry. We have heard a story of a pedagogue in a small village, who, having joined a crowd anxiously engaged in watching an eclipse of the sun, and, having been asked, in deference to his superior learning, what was the cause of this extraordinary appearance, replied, “ Oh ! it’s only a phenomenon.” If, when we behold any thing extraordinary in nature, we check our instinctive curiosity by saying to ourselves “ It’s only a phenomenon,” we shall be not one step nearer any rational knowledge of that appearance than if we had never observed it. We must inquire into the *causes* of the phenomenon, which term, *phenomenon*, properly means an appearance—any thing made manifest to us in any way ; and then we shall be led on to the knowledge of more phenomena,—till by degrees we obtain a con-

nected and general insight into the entire subject to which our attention was accidentally directed.

It is amazing how much quickness the habit of observation will impart to the whole intellect, and give it an aptitude for understanding and enjoying the thing observed. There is nothing, for instance, so common as to find men wanting in a perception of picturesque beauty—of that feeling which enables some to take great delight in a landscape, not only for its extent, or the grandeur of its parts, but for that harmonious arrangement which is necessary to the effect of a picture, or for some accidental circumstances of light and shadow, or of colour, which render the prospect more than usually attractive. Now this is strictly an acquired faculty, and one which is produced by the practice of looking at nature, or at the monuments of art, with this previous adaptation of the vision to picturesque objects ; and a person who enjoys the faculty, (we say enjoy, for it is a source of real pleasure,) is said to possess “ a painter’s eye.” It is precisely in the same way that a naturalist, by constantly observing the peculiarities of animal life, acquires the readiest perception of the differences in the structure and habits of the great variety of living beings ; and he perceives in each of them qualities which a less practised observer would entirely overlook. Through this habit of observation, the science of *Zoology*, which comprehends all that relates to the description and classification of animals, has been gradually established. By diligent observation, the peculiar structure of vast numbers of individual animals has been ascertained ; their habits have been accurately described ; and many ancient errors, which arose from hasty examination, have been exploded. This greater accuracy of description has produced a proportionate accuracy of classification ; and though no system which attempts

to arrange every variety of individual animals according to generic distinctions can be perfect, because exceptions to the rule are constantly occurring, yet an approach to perfection has been made, through a more complete understanding of the organization of each species. Thus, in the more recent scientific works on Zoology, the accidental circumstances of size, or colour, or locality, or any identity in unimportant habits, have ceased to be guides in the classification of animals ; but the essential peculiarities of their formation, which chiefly determine their habits, have alone been regarded. We mention this to point out that the actual observations of successive naturalists, leading to the accumulation of a great body of facts, have principally contributed to the advance of Zoology as a science in modern times ; for the science being wholly founded upon observation, and not upon previous calculations, or any series of experiments, the greater our collection of facts, the nearer have we approached to systematic perfection.

To enable an observer to make any valuable additions to this store of zoological knowledge, it is not necessary that he should be a profound anatomist, or skilful in languages, or acquainted with all the various systems of classification which have entered, perhaps too largely, into the science of Zoology in all ages. Some of the most valuable materials for our knowledge of animals have been contributed by unscientific travellers, who have been content accurately to describe what they saw, and to collect the minutest particulars of the structure, and more especially of the habits, of the rare species of quadrupeds, or birds, or reptiles, or fishes, which they had opportunities of seeing in their natural state. But it is not even necessary that a lover of nature should be a traveller, or detail the peculiarities of those creatures only with which we are not familiar,

to make very important additions to Zoology. One of the most instructive and amusing books in our language, "The Natural History of Selborne," was written by the Rev. Gilbert White, who for forty years scarcely stirred from the seclusion of his native village, employing his time, most innocently and happily for himself, and most instructively for the world, in the observation and description of the domestic animals, the birds, and the insects by which he was surrounded. He does not raise our wonder by stories of the crafty tiger or the sagacious elephant; but he notes down the movements of "the old family tortoise;" is not indifferent to the reason "why wag-tails run round cows when feeding in moist pastures;" and watches the congregating and disappearance of swallows with an industry which could alone determine the long disputed question of their migration. Mr. White derived great pleasure from these pursuits, because they opened to his mind new fields of inquiry, and led him to perceive that what appears accidental in the habits of the animal world, is the result of some unerring instinct, or some singular exercise of the perceptive powers, affording the most striking objects of contemplation to a philosophic mind. It is in this way that every man may become a naturalist; and the great object which we propose to ourselves in the collection of the most interesting facts relating to animals in general, and in this volume of those which appertain to Quadrupeds in particular, will be to excite such a habit of observation in our readers, that they may accustom themselves to watch the commonest appearances of animal life; and thus derive from every inquiry to which their observations may lead them, a more intimate conviction of the perfection of that Wisdom, by which the functions of the humblest being in the scale of existence are prescribed by an undeviating law.

We intend, at first, to treat of **QUADRUPEDS** ; and, with very few exceptions, to found our description of the individual animal, upon our personal observation of living specimens. We shall, in most cases, illustrate these descriptions by accurate wood-cuts, not copied from other books, but taken from the life by competent artists. The principal subjects of our descriptions and drawings are to be found in the Menageries of London and its neighbourhood. We shall especially direct our attention to the Collection in the Garden of the Zoological Society, which already contains many interesting specimens, and which may be justly regarded as the foundation of a National Vivarium,—for so such a collection was called by the Romans. It may be objected to this mode of writing a book on Quadrupeds, that the individual animals are seen under artificial restraints, and that, in circumstances so opposed to their ordinary states of existence, we can form no adequate notion of their natural habits. To this we reply, that the observation of Quadrupeds in Menageries is the only mode by which a sufficient number can be viewed alive at one time. That man must be a very universal traveller who has seen, in their native condition, the elephant of India, the llama of Peru, the beaver of North America, the lion of Africa, and the kangaroo of New South Wales. In Menageries we can trace the forms, the colours, and, partially, the natural habits of animals;—and we can witness, what the observer of them in their native woods and mountains has no opportunity of witnessing, the interesting modifications of their habits under restraint and discipline, or their changes of character in their association with civilized man. But in the almost exhaustless details of travellers, and particularly in the relations of those enterprising naturalists, both of our own and other coun-

tries, who have enlarged the boundaries of natural science by the most enthusiastic devotion to their favourite pursuits, we have the means of comparing the same species in different circumstances, and thus of connecting our own impressions with the facts derived from a more extended observation. We avail ourselves, in common with the other inhabitants of a great metropolis, of the instruction which Menageries afford ;—and we view these establishments, not as mere exhibitions for the gratification of a passing curiosity, but as the most effectual means of bringing to our very doors, those uncommon specimens of the animals of other climes, which, while they extend, as far as possible, our actual acquaintance with animal nature, may ultimately lead to the domestication of some of those races which, possessing many valuable qualities, have not yet been made available to the purposes of man even in his present state of civilization.

We propose to proceed in our descriptions of individual animals, without following exclusively an arrangement depending upon what zoologists call the *Order*, the *Family*, or the *Genus*, to which they belong. We are not about to write a systematic work on Zoology, which shall comprise every specimen of the Animal Kingdom ; but with especial reference to the plan of diffusing *Entertaining Knowledge*, we shall rather attempt to lead the reader to a gradual acquaintance with the Science, by instructing him in the peculiarities of individual animals, than to make these peculiarities subordinate to classification. We apprehend that, in adopting this course, we pursue a natural and interesting mode of communicating a popular knowledge of the subject. It is frequently better to lead men from the example to the principle, than from the abstract principle to the example. This is the mode in which a *practical* knowledge is

best attained, in all things. A naturalist, when he first begins to form a museum, collects whatever rare and valuable specimen may fall in his way. He partially arranges them, as far as may be convenient ; and he is thus led on to attempt a *perfect* classification, when his collection is sufficiently advanced to render the want of such an arrangement embarrassing. In the same way, when our readers are familiarized with the individual characters of a considerable number of animals, (in the selection of which we shall neither utterly disregard, nor slavishly follow, a scientific order,) they will begin to feel the *real* value of classification : and thus, whilst their amusement has been consulted by keeping back the mere nomenclature of Science, in the first instance, a complete analytical index upon scientific principles will ultimately collect all our scattered specimens into *Orders* and *Genera* ; and this will be done at the very time when a knowledge of the Classification of Zoology will become with them an object of anxious desire, instead of appearing dry and technical, and fit only for anatomical students and lovers of hard names.

There are, however, a few of the great principles of Zoology, upon which the systems of classification now in most esteem are founded, which we may properly explain, in as brief and simple a manner as possible, before we proceed to individual descriptions.

The ANIMAL KINGDOM (scientifically called *kingdom*, to distinguish it as a portion of the *world* of nature in general) is divided into *vertebrated* and *invertebrated* animals. The term *vertebrated* is derived from *vertebræ*, the Latin name for the bones of the spine.

Vertebrated animals are, therefore, those which possess a spine, or bony covering of the spinal mar-

row, on the anterior part of which the cranium or covering of the brain rests. To the sides of the vertebræ are attached ribs, which form the frame-work of the body. Animals of this division have all red blood ; a muscular heart ; a mouth with a transverse opening, and of which the jaws move in the same plane ; and distinct organs of vision, smell, hearing, and taste, all situated in cavities of the head. They have never more than four limbs. The division comprises, *Mammalia*, *Birds*, *Reptiles*, and *Fishes*. The word *Mammalia* (having teats) applies to all animals which suckle their young, and is the proper scientific term for those which are popularly called *Quadrupeds* ; for the latter term is an incorrect one, when applied *exclusively* to viviparous animals (producing their young in a living state) with four legs, as many of the *Reptiles* have also four legs. Whenever, therefore, we popularly use the term *Quadrupeds*, speaking generally of the class which we are at present about to describe, we mean *Mammiferous Quadrupeds*.

The *Invertebrated* animals are those which have no vertebræ ; of all these the blood is white. They are scientifically divided into *Molluscous* animals, in which the muscles are attached to the skin, with or without the protection of a shell—such as snails and slugs ; *Articulated* animals, in which the covering of the body is divided into rings or segments, to the interior of which the muscles are attached—comprehending all insects and worms ; and *Radiated* animals, in which the organs of motion or sensation radiate from a common centre—such as star-fish.

Each of the above four classes of *Vertebrated* animals have peculiarities of organization, by which they are fitted for the respective states in which they exist. The various nature of their movements is always proportioned to the quantity of respiration distinguishing each class. They thus either

walk or run upon the earth, or fly through the air, or creep upon the ground, or swim in the water, as their quantity of respiration is moderate as in quadrupeds, or great as in birds, or feeble as in reptiles, or small, but modified by peculiar arrangements, as in fishes. Quadrupeds, as we before said, suckle their young, and are viviparous. The whale, and several other species, which are popularly regarded as fishes, belong to the class Mammalia, on account of the great characteristic of suckling their young. Birds, Reptiles, and Fishes, being oviparous, or laying eggs, leave their young to other nourishment than that of their own bodies.

The peculiar organization of QUADRUPEDS will be described, as occasion offers, in our notice of the individual specimens. The Orders into which they are now more generally divided are determined, first, by the organ of touch, which regulates the ability of the animal to seize upon any object, and upon which its dexterity mainly depends ; and, secondly, by those of mastication, which prescribe the nature of the food proper to each species. Linnæus, whose authority as a writer on Natural History was for a long time considered unquestionable, divided the orders of quadrupeds solely according to the peculiarities of their teeth ; but this system, although natural to a certain extent, has been considered as producing great anomalies, and unnatural combinations. The systems of Cuvier, Blumenbach, and other distinguished naturalists of our own day, are founded upon a consideration of the peculiarities both of the teeth and of the organs of touch. 'These systems, therefore, being formed with especial reference to the two great distinctions which determine the most important habits of the animal, are called 'natural systems.' Without offering an opinion upon the relative merits of the more modern systems of classification, we subjoin, for the present, a general

view of the principles which have guided the zoologists of the best authority.

The class of Quadrupeds admits of a division into two *tribes* :—

I. Those whose extremities are divided into fingers or toes, scientifically called *Unguiculata*, from the Latin word for nail.

II. Those whose extremities are hoofed, scientifically called *Ungulata*, from the Latin word for hoof.

I. The extremities of the first tribe are armed with claws or nails, which give them a capability of grasping objects, of climbing, of burrowing. The animals thus distinguished are susceptible of great variations in their modes of subsistence ; which variations are partly determined by different modifications of the power of touch, and partly by differences in the form of the cheek-teeth.

Some have extremities formed for grasping, having the faculty of opposing a thumb to the other fingers, which faculty resides in, or is communicated by, that portion of animal structure which is properly called a hand. Man possesses this faculty in the highest perfection ; but monkeys and bats are distinguished by having *all* their extremities capable of this power ; and they are thus called *Quadrumana*, or four-handed.

The remaining orders of the first tribe have no thumb capable of free motion ; and they are classed according to the form of their cheek-teeth, which determines their choice of food.

The *Quadrumana*, and the *Carnivora*, (eaters of flesh,) have molar or grinding-teeth, (which we call cheek-teeth,) canine-teeth, and cutting-teeth. Those

which have the cheek-teeth feed partly, or wholly, on flesh, and these teeth are adapted for cutting that substance ; while the jaws are fitted together so as to move in the manner of a pair of scissors, and are incapable of any other motion than that of opening and closing again in a vertical direction. Some of these carnivorous animals, as well as other orders of the fingered quadrupeds, walk on the soles of the feet, as bears, and are called *Plantigrada* ; some on the extremities of the feet, as cats, and are called *Digitigrada* ; and some are web-footed, as seals, and are called *Palmata*. The remaining animals of the first tribe want the canine-teeth, and have cutting-teeth in the front of the mouth, as rats and rabbits. They are called *Rodentia* by Cuvier, which signifies *gnawing* ; and *Glires* by Linnæus. Cuvier makes another division, called *Edentata*, which are defective in the incisive teeth, and of which some want the canine-teeth, and some are even destitute of teeth altogether.

Amongst the Ungiculata, or fingered Quadrupeds, there are very few which are used by man as food. Many of them are noxious or ferocious. The Dog and the Cat are the only species of the carnivorous orders which have been rendered domestic ; although many have their natural instincts subdued or restrained by their contact with mankind.

II. The extremities of the Ungulata (*Hoofed* tribe) are exclusively employed to support and move the body. These animals do not possess the power of grasping objects, of climbing, or burrowing. They are all *Herbivorous*, or feeding on vegetables. Their teeth are fitted for the mastication of grain or roots, by having a flattish round upper surface ; and their jaws possess the capacity of moving in the same plane. Their teeth are also of unequal hardness, so that they have the power of crushing, like the unequal surfaces

of a millstone. Cuvier divides the Hoofed animals into, 1. *Pachydermata*, or thick-skinned, amongst which are the horse and the elephant ; and, 2. *Ruminantia*, or those which ruminate, or chew the cud, such as cows and sheep. Amongst this tribe, man, whether in a rude or a civilized state, principally and almost exclusively finds his food, from wild or from domesticated animals. This tribe also furnishes him with the most valuable assistance in agriculture, in the chase, and in the carriage of commodities.

In giving this very brief, and therefore imperfect, sketch of the leading principles of Classification, we have only thrown out a few hints for such of our readers as may desire, in the outset, to view the subject of Zoology as a science. As we proceed, we shall endeavour not to disregard the claims of Classification ; in not making them prominent, we desire only to divest the subject of such technicalities as might interfere with the object of combining *entertainment* with instruction : and we shall seek to afford materials for adopting the best of the prevailing systems, rather than undertake to pronounce without hesitation upon the superiority of any one of them.



Entrance to the King's Menagerie, Sand-Pit Gate, near Windsor.

CHAPTER II.

THE USES OF MENAGERIES.

THE literal meaning of the word *Menagerie* points out one of the principal objects of a collection of various living animals. *Ménagerie* is derived from the French word *ménager*, from which we derive our English verb, to manage. The name *Ménagerie* was originally applied to a place for domestic animals, with reference to their nurture and training : it now means any collection of animals. It may be implied, therefore, that the animals in a *Menagerie* are not placed there merely for safe confinement, but that by care and kindness their noxious or ferocious propensities may there be restrained or subdued, and by constant discipline their habits may there be rendered useful, or at least inoffensive, to man. Daubenton, and other distinguished naturalists, have believed that the ferocity of many of the carnivorous animals may be entirely conquered, in the course of

time ; that they only flee from man through fear, and attack and devour other animals through the pressing calls of hunger ; and that the association with human beings, and an abundant supply of food, would render even the lion, the tiger, and the wolf, as *manageable* as our domestic animals. In support of this theory, it may be observed, that although the tiger and the domestic cat have many properties in common, the conquest of the latter species is now complete ; and, further, that some of the most ferocious animals which have been bred in a state of confinement, or taken exceedingly young, have become perfectly tractable and harmless with those who have rightly understood their natures. The accidents which have sometimes occurred to the attendants of wild beasts, and which are attributed to the treachery of their dispositions, have generally proceeded from an ignorance of their habits. The lion, for instance, is not an animal of acute hearing, and he is therefore awakened with difficulty, particularly after feeding. If he be suddenly aroused, he instantly loses all presence of mind, and flies off in the direction in which he happens to be lying. A few years ago, one of the keepers at Exeter Change was killed, through his ignorance of this peculiarity, which is well known to the Bushmen of Africa.* The keeper, going into the den of a lion, and suddenly awakening him, the animal, seeing no mode of escape, killed the man under the influence of his natural terror. This unfortunate circumstance did not proceed from any unconquerable ferocity in the lion ; for, in general, he was obedient, and even affectionate. The habits of his species were not thoroughly understood by those around him ; if it had been otherwise, the keeper would not

* Philip's Researches in South Africa.

have placed himself in a position where the discipline by which the lion had been rendered grateful would be useless, from the stronger force of a natural propensity.

But if it be too much to hope that the ferocious animals may be subdued to our uses, through the education which well conducted Menageries would afford, it cannot be doubted that such establishments offer most interesting opportunities for observing the peculiarities of a great variety of creatures, whose instincts are calculated to excite a rational curiosity, and to fill the mind with that pure and delightful knowledge which is to be acquired in every department of the study of nature. The commonest animals offer to the attentive observer objects of the deepest interest. When Montaigne, playing with his cat, says, in his quaint way, "who knows whether puss is not more diverted with me than I am with puss," his mind wanders into those speculations with regard to the delicate lines which divide instinct from reason, which must naturally arise to every one who attentively contemplates the dispositions of the inferior parts of the living creation. To those who philosophize, or to those who do not, the instinct and intelligence of animals are always interesting ; and to a feeling mind, they are doubly so. The poet Cowper, when he sat for hours in his study watching the gambols of his three tame hares, forgot that gloom which constitutionally preyed upon him, in his sympathy with the innocent happiness of the poor beings whom he had taught, first not to fear him, and afterwards to love him. These three hares, and his spaniel and cat, formed Cowper's Menagerie, and it afforded him both delight and instruction.

All associations between animals of opposite natures are exceedingly interesting ; and those who train animals for public exhibition know how attractive are

such displays of the power of discipline over the strength of instinct. These extraordinary arrangements are sometimes the effect of accident, and sometimes of the greater force of one instinct over the lesser force of another. A rat-catcher having caught a brood of young rats alive gave them to his cat, who had just had her kittens taken from her to be drowned. A few days afterwards, he was surprised to find the rats in the place of the drowned kittens, being suckled by their natural enemy. The cat had a hatred to rats, but she spared these young rats to afford her the relief which she required as a mother. The rat-catcher exhibited the cat and her nurslings to considerable advantage.* A somewhat similar exhibition exists at present. There is a little Menagerie in London where such odd associations may be witnessed upon a more extensive scale, and more systematically conducted, than in any other collection of animals with which we are acquainted. Upon the Surrey side of Waterloo Bridge, or sometimes, though not so often, on the same side of Southwark Bridge, may be daily seen a cage about five feet square, containing the quadrupeds and birds which are represented in the annexed cut. The keeper of this collection, John Austin, states that he has employed seventeen years in this business of training creatures of opposite natures to live together in content and affection. And those years have not been unprofitably employed ! It is not too much to believe, that many a person who has given his halfpenny to look upon this show, may have had his mind awakened to the extraordinary effects of habit and of gentle discipline, when he has thus seen the cat, the rat, the mouse, the hawk, the rabbit, the guinea-pig, the owl, the pigeon, the starling, and

* Broderip.

the sparrow, each enjoying, as far as can be enjoyed in confinement, its respective modes of life, in the company of the others,—the weak without fear, and the strong without the desire to injure. It is impossible to imagine any prettier exhibition of kindness than is here shown. The rabbit and the pigeon playfully contending for a lock of hay to make up their nests ; the sparrow sometimes perched on the head of the cat, and sometimes on that of the owl,—each its natural enemy ; and the mice playing about with perfect indifference to the presence either of cat, or hawk, or owl. The modes by which this man has effected this, are, first, by keeping all the creatures well fed ; and, secondly, by accustoming one species to the society of the other at a very early period of their lives. The ferocious instincts of those who prey on the weaker are never called into action ; their nature is subdued to a systematic gentleness ; the circumstances by which they are surrounded are favourable to the cultivation of their kindlier dispositions ; all their desires and pleasures are bounded by their little cage ; and though the old cat sometimes takes a stately walk on the parapet of the bridge, he duly returns to his companions, with whom he has so long been happy, without at all thinking that he was born to devour any of them. This is an example, and a powerful one, of what may be accomplished by a proper education, which rightly estimates the force of habit, and confirms, by judicious management, that habit which is most desirable to be made a rule of conduct. The principle is the same, whether it be applied to children or to brutes.

The travelling menageries, which form the chief attraction of country fairs, and which divide the popular applause with tumblers and conjurers, are

Group of animals of opposite nature living in the same cage.



amongst the most rational gratifications of the curiosity of the multitude. All classes of persons go to see these exhibitions ; and it is not too much to assert that many come away with their understandings enlarged, and their stores of useful knowledge increased. The animals may be confined in miserable dens, where their natural movements are painfully restrained ; the keepers may be lamentably ignorant, and impose upon the credulous a great number of false stories, full of wonderment and absurdity : but still the people see the real things about which they have heard and read, (though they are not always pointed out to them by their right names,) and they thus acquire a body of facts which make a striking impression upon their memories and understandings. The sagacity of the elephant, and the lofty port of the lion, can never be forgotten. The actual inspection of such collections of animals, too, gradually obliterates the impressions of these false accounts which the early naturalists multiplied with a fond credulity, and which, like all other mysterious stories, took the firmest hold of the popular mind. The people see in these menageries a great number of rare animals, brought together from distant parts of the earth, whose habits are very curious and surprising : but they never see the Griffin, which is represented as half beast and half bird ; nor the Centaur, which the poets have described as half horse and half man ; nor the Phoenix, which is drawn as a bird, and is stated to perish by fire at the end of a hundred years, and then to rise again from its own ashes. The people thus gradually learn to disbelieve the existence of these things, because the fables to which they have trusted never receive a confirmation from any living specimen ; whilst, on the other hand, the statements of intelligent travellers and naturalists, which they may have also heard of, are abundantly proved by the evidence of their own senses

To acquire the habit of discriminating between what is true and what is false—to learn to separate fable from fact—to perceive what parts of literature belong to the freaks of the imagination, and what to diligent inquiry and sober reasoning—this is the very foundation of all valuable knowledge ; and to obtain this habit of mind is one of the happiest consequences of that habit of observation which, as we have already said, a love for the study of nature is so fitted to call forth.

The commercial intercourse of this country with what may be almost called the whole world, has afforded us, during the last century, unrivalled opportunities of obtaining the rarest specimens of animals, from whatever region they are naturally found in. Our immense possessions in Asia, and our systematic expeditions of discovery to Africa, have furnished the most extensive fields for the researches of naturalists. Within the last thirty years especially, our extended colonization of Australasia has added many new specimens to our national collections ; but, till very lately, the acquisition of rare animals has been entirely left to individual enterprise. A tiger or a bear, for instance, has been caught young, and entrusted as a speculation to the captain of a merchant vessel, to be brought to England. The proprietor of the valuable collection at Exeter Change, or some one of the owners of the three or four travelling menageries in the kingdom, bought the animal at a large price, if it suited his purpose ; and by such means, as we have seen, a popular knowledge of this branch of Natural History has been imperfectly kept up. The spirit of commercial speculation has thus, as in many other matters amongst us, supplied the place, and sometimes very admirably, of a fostering care on the part of the Government. It might be considered that the Royal

Menagerie in the Tower of London was an exception to this remark ; but that collection has always fluctuated in value according to the spirit of the individual entrusted with its management, which spirit has mainly depended upon the taste of the public for such exhibitions.

The Menagerie of the Tower is now very flourishing. It contains some extremely fine specimens of more than forty quadrupeds, and of various birds and reptiles. The dens in which the animals are kept are tolerably commodious, and great attention is paid to their cleanliness. This collection has lately been made the subject of a very interesting volume. But the Tower Menagerie was not always as valuable as at the present time. In 1822, the collection comprised only an elephant, a bear, and two or three birds. It had gradually declined in value for half a century ; in some degree, perhaps, from the force of popular prejudice, which was accustomed to consider it only an occupation and amusement for children to make a visit to the " Lions in the Tower." A better system of education has instructed us that there is nothing in nature beneath the attention of a reasonable being ; that some of the wisest and most philosophic of mankind have devoted themselves with a passionate ardour to the cultivation of Natural History as a science ; and that if children feel the deepest interest in safely beholding those ferocious animals which form such attractive objects in many of the stories dedicated to their use, that interest may be readily carried far beyond the gratification of a passing curiosity, and may become the excitement to the acquisition of a great deal of real knowledge, capable of being presented in the most captivating form.

In the barbarous ages, and till within the last century, beasts of prey were considered the especial

property of kings, as something typical of their power and greatness. In the fortress where the crown of our ancient monarchs was kept, were also confined their lions. These were generally maintained at the expense of the people, and sometimes of the civic officers of London, by special writ ; and the keeper of the lions was a person of rank attached to the court. Gradually, this exertion of the royal prerogative fell into decay ; and if a foreign potentate presented a tiger or a leopard to the King, as was often the case with the rulers of the maritime states of Africa, the animal was given to the keeper of the menagerie to add to his stock of attractions for the public. Further, no care was taken of the collection on the part of the Sovereign or the Government. It is highly creditable to the present keeper that he has judiciously availed himself of the growing taste for zoological pursuits, to render his collection in some degree worthy of a country possessing such opportunities of obtaining the finest specimens of animal life which the world can afford.

The beasts of prey which are presented to the King are, in nearly every case, sent to the Tower ; but his present Majesty, during the last ten years, has formed a very fine collection of such quadrupeds as are more capable of domestication, and of birds, in Windsor Great Park, at a Lodge called Sand-Pit Gate.* Before the establishment of the gardens of the Zoological Society, this royal collection offered almost the only opportunity of seeing many of the rarer species of animals in their natural condition.

* The King's Collection is open on Mondays and Saturdays to all persons making application at the Sand-Pit Gate Lodge, which is situated about twenty-two miles from London, close by the road called the Forest Road to Reading. The Vignette at the head of this chapter will be some guide to the stranger in finding the spot.

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In this menagerie they are not pent up in miserable dens, but have large open sheds, with spacious paddocks, to range in ; water in plenty ; and spreading trees to shade them from the noon-day sun. The collection is open to the public gratuitously ; and here may be seen the giraffe, various species of antelopes and deer, kangaroos in great numbers, zebras, quaggas, ostriches, and emeus rearing their young as fearless as the barn-door fowl. The Duke of Devonshire has, at his villa at Chiswick, a small collection, which, as in the instance of the Windsor Park Menagerie, offers the delightful exhibition of several quadrupeds and birds exercising their natural habits almost without restraint. At Chiswick, there was, for many years, a particularly sagacious female elephant, which followed her keeper about the field in which her spacious hut was placed, knelt down at his bidding, and bore him on her neck in the manner which we read of in books of oriental history or travel. This interesting animal died last autumn. (1828.)

Whatever advantages students of natural history, artists, and the public generally, may have derived from private collections, and from the imperfect exhibitions to which we have alluded, it was manifestly desirable that a National Menagerie and Museum should be established in London. The greater the opportunities of forming such collections, the greater the disgrace of neglecting them. In this country, such national institutions are generally formed by the spirit of individuals associating together for the advancement of some great public good ; and it is thus that other countries, with whose governments establishments connected with science generally originate, have commonly preceded us in the career of scientific improvement. We do the work as well ultimately, but we go about it more slowly. The Kings of France had, at Versailles, such a me-

nagerie as the Kings of England have had in the Tower. It was at this menagerie that Buffon and Daubenton studied. In 1793 the collection was so reduced that it consisted only of a quagga, a bubale, (the cervine of Pennant,) a rhinoceros, a lion, and a hooded pigeon. The celebrated St. Pierre, who succeeded Buffon as keeper of the Jardin des Plantes, where there was a splendid *museum* of natural history, laboured most assiduously to add a menagerie to the establishment. He succeeded ; and the collection was begun with the remnant of the royal collection at Versailles. The menagerie of Paris is now one of the principal attractions of that capital. In the number of its specimens, in the convenience of its arrangements, and in the large scale of its accommodation for the animals according to their respective natures, it is infinitely superior to any other menagerie, and is therefore deservedly visited by all foreigners. St. Pierre, amongst the arguments which he employed for the formation of this establishment, says, "Colbert attracted many strangers to our capital by the fêtes which he gave to Lewis XIV. ; a free nation ought to invite them thither by the schools of useful knowledge which it opens to the human race." His arguments were successful. What was begun at Paris in 1793, for the study of natural history from living specimens, has been imitated in London in 1828 ; and we doubt not that our own institution will be as successful as its precursor. The one is maintained at the public cost, the other by individual subscription ; but the popular desire for knowledge will, we trust, overcome this inequality.

The establishment of the *ménagerie* at the Jardin des Plantes has afforded opportunities for the study of natural history which have advanced the branch of the science that relates to quadrupeds in a most

remarkable degree. The accurate descriptions of Cuvier, of Geoffroy, of Desmarest, and of other distinguished naturalists of France, are principally to be ascribed to their diligent studies in this school. Buffon was one of the most eloquent of natural historians. Wherever he describes from actual observation, the appearance, the instincts, and the habits of animals, he is interesting not only to the learned, but to the least informed reader. The greater part of what is really valuable in his writings is derived from the accurate study of some individual specimen ; and his most splendidly coloured portraits are those for which he had living models. But such opportunities of gathering materials for fresh and vivid description, from real animated nature, were oftentimes wanting to Buffon. He occasionally writes from vague and uncertain narratives ; and then, as might be expected, he is superficial and full of false theories. His successors have had more extended opportunities of observation ; and the accuracy of their facts, therefore, leaves us less reason to regret the absence of those charms of style which render Buffon one of the most delightful of writers.

The five animals which remained of the menagerie of Versailles were offered to St. Pierre, as keeper of the *Cabinet* of Natural History, to form *skeletons* to be added to that collection. He wisely seized upon the opportunity to combat a prejudice which then existed, and which even still exists, that stuffed specimens, and anatomical preparations, are quite as valuable for the purposes of science as living animals. Comparative anatomy, which is doubtless an important part of natural science, may certainly be studied in museums ; but when the argument is carried further by those naturalists who say, " It is sufficient to have the means of examining *dead* animals, for by such we may learn to distinguish the species

and the kinds of each, as well as from living specimens," the indignant answer of St. Pierre is worthy attention :*

"Those who have studied nature only in books can see only their books in nature ; they look upon the natural world only to find therein the names and the characters of their systems. If they are botanists, they are satisfied to have discovered a plant of which some author has spoken ; and having assigned it to the class and the order which he has pointed out, they gather it, and spreading it between two bits of gray paper, they sit down content with their knowledge and their researches. They do not form a herbal to study nature, but they study nature to form a herbal. It is in the same way that they make collections of animals, that they may learn their genera and their species, and treasure up their names.

"But can he be a lover of nature who thus studies her wonderful works ? How great a difference is there between a dead vegetable, dry, faded, discoloured, whose stems and leaves and flowers are crumbling to powder, and a living vegetable, full of sap, which buds, flowers, gives forth perfume, fructifies, and sows itself again—maintains an universal harmony with the elements, with insects, with birds, with quadrupeds, and, combining with a thousand other vegetables, crowns our hills and adorns our river banks !

"Can we recognise the verdure and the flowers of a meadow in a hay-stack ? or the majesty of the trees of a forest in a bundle of faggots ? The animal loses by death even more of its characteristics than the vegetable : for the animal has received a more vigorous portion of life. Its principal qualities vanish :

* *Mémoire sur la Ménagerie. Œuvres de St. Pierre, tom. xii. p. 654. Paris, 1818.*

its eyes are shut, its pupils are dim, its limbs are stiff; it is without warmth, without motion, without feeling, without voice, without instinct. What a difference between the animal who enjoys the light, distinguishes objects, moves towards them, calls the female, couples, makes its nest or lair, brings up its young, defends them from their enemies, congregates with its kind, and gives music to our woods and animation to our meadows! Do you recognize the lark, gay as the breath of morning, who 'at heaven's gate sings,' when he is suspended from the beak upon a bit of packthread; or the bleating sheep and the labouring ox in the well-dressed limbs of a butcher's shop? The best prepared animal only offers a stuffed skin and a skeleton. The life is wanting, by which he was classed in the animal kingdom. The stuffed wolf may preserve his teeth, but the peculiar instinct which determined his ferocious character is gone, and he then scarcely differs from the friendly dog."

There is much truth in these remarks, and their good sense ought not to be overlooked, though the style in which it is conveyed be somewhat declamatory. For all popular purposes, menageries offer much more interesting modes of studying some parts, and those the most important, of the animal kingdom, than the best museum. In this sense, the homely saying is quite correct, that "a living dog is better than a dead lion."

The value of menageries, not only for popular but for scientific study, depends, however, very much upon the arrangements which determine their construction and regulation. The great object should be, as far as possible, to exhibit the animals in their natural state. It has been a favourite plan with many naturalists to establish a garden, in which the animal should find himself surrounded by his

natural food—where the beaver should live amidst a rivulet and a bank of poplars, and the rein-deer browse upon his native lichen. Great difficulties, of course, present themselves to the completion of such a project ; and though its execution were compatible with any reasonable expense, the difficulty of adjusting the temperature of our climate to the plant and the animal would be very considerable. Yet, in a *national* menagerie, much ought to be attempted, gradually but systematically, to realize such a desirable object as the exhibition of animals in their natural habits. If the cat tribe are pent up in close dens, what idea can be formed of the crouch and the spring which characterise both their sport and their seizure of prey ? With every regard to their security, they might have a sufficient range to exhibit this peculiar property. We can acquire no adequate notion of the kangaroo in a cage, but in a paddock its remarkable bound at once fixes our attention and curiosity. In a very interesting book, "*Waterton's Wanderings in South America*," there is an account of the sloth, which shews that we can know nothing of some animals unless we see them in their natural condition. This traveller delights in wonderful stories, which he tells in a style approaching to exaggeration ; but there is no reason to doubt the general accuracy of his descriptions of natural objects. The sloth is usually described as slow in his movements, and as in a perpetual state of pain ; and from his supposed inaction his name is derived. And why is this ? He had not been seen in his native woods by those who described him : he was resting upon the floor of some place of confinement. His feet are not formed for walking on the ground ; they cannot act in a perpendicular direction ; and his sharp and long claws are curved. He can only move on the ground by pulling himself

along by some inequalities on the surface, and therefore on a smooth floor he is perfectly wretched. He is intended to pass his life in trees; he does not move or rest *upon* the branches, but *under* them; he is constantly suspended by his fore-legs, and he thus travels from branch to branch, eating his way, and sleeping when he is satisfied. To put such a creature in a den is to torture him, and to give false notions of his habits. If the sloth be placed in a menagerie, he should have a tree for his abode; and then we should find that he is neither habitually indolent nor constantly suffering.

The delight of observing wild animals in their natural state is great in proportion to its rarity. This delight is one reason that enterprising travellers,—such as Waterton, whom crocodiles and serpents could not deter from pursuing his researches, and as Wilson, the historian of American birds, who spent his life in the woods,—describe with a freshness and truth which can only proceed from a thorough love of their subject. We can understand how this desire to observe the natural, unrestrained habits of animal life, should grow almost into a passion. The difference between the same animal under confinement, and when enjoying its native liberty, is striking enough to make an enthusiastic man willing to devote his life to those diligent observations of “the free denizens of the woods,” which are so valuable to those who have to write on natural history with less favourable means of observation. We lately saw this difference exemplified in a striking manner. At the residence of a private gentleman at Limehouse, there are three monkeys in a state of remarkable freedom. We went to see them, with but few anticipations of pleasure; for a monkey, as monkeys are ordinarily seen, confined to a box, shews little but the cunning and rapacity of his race.

The monkeys at Limehouse were let loose into an orchard, in which there were some high and spreading elms. Their gambols were the most diverting that could be imagined. They pursued each other to the top of the highest branch, where they sat fearlessly chattering ; and in an instant they would throw themselves down, with unerring aim, some twenty feet, and, resting upon the bough which they had selected to leap at, would swing to and fro with manifest delight. We shall not be satisfied again with a menagerie which has not trees for its monkeys to sport in.

The menagerie of the Zoological Society will doubtless become the national menagerie, and in the course of a few years it may rival that of Paris. Our opportunities for forming the finest collection in the world are unbounded ; and the taste for natural history which distinguishes the public mind, in itself will create ample funds for its gratification. It will be the object of this little book to promote that taste, by giving faithful descriptions of living animals, by rejecting all fabulous and doubtful relations, and by leading onwards to a more scientific knowledge, through the medium of what appears to combine the entertaining with the useful. We first desire to fix the habit of attention upon natural objects. To effect this, we shall attempt to present some of those objects to the mind in a way that may excite a rational curiosity towards what is rare and wonderful,—never forgetting to direct it, at the same time, towards what is familiar, but not less remarkable. Everything in nature is full of instruction. The intelligence of the elephant, and the instinct of the spider, are equally deserving of observation, and inquiry ; and are equally examples of the wisdom and power of Him who said “ Let the earth bring forth the living creature after his kind, cattle and creeping thing

and beast of the earth after his kind." It is for this cause, especially, that we consider that attention can never be ill bestowed, whether it be directed to the habits of our humble companions, such as the dog and the horse, or excited by the rarities of foreign lands, as viewed in menageries. In such establishments there are various measures of attraction, as we have already seen ; but there are none without some interest. Even the wandering Italian, who exhibits his bird and his dog to every bystander, has something to shew which may exemplify the force of instinct or of habit, and thus teach us some one of the lessons which the whole Book of Nature offers to him who will read it aright.



CHAPTER III.

THE DOG.



Esquimaux Dog.—Canis familiaris Borealis.—DESMAREST.

In the garden of the Zoological Society are some remarkably fine specimens of dogs ; and one of the finest and most interesting is the dog of the Esquimaux. Peter (so he is called) was brought to England by Lieut. Henderson, R. N., one of the companions of Captain Ross. This variety of dog most nearly resembles the shepherd's-dog, and the wolf-dog. The ears are short and erect ; the tail is bushy, and carried in a graceful curve over the back : in this particular the Esquimaux dog principally differs from the wolf of the same district, whose tail is carried between his legs in running. The tail *turned upward* is the distinguishing characteristic of the domestic dog,

of every variety. It has been considered by some naturalists, that these dogs are wolves in a state of domestication. The anatomy of both, for the most part, corresponds ; the wolf is, however, larger, and more muscular. The average height of the Esquimaux dog is one foot, ten inches ; the length of his body, from the occiput (the back of the head) to the insertion of the tail, two feet, three inches ; and of the tail itself, one foot, one inch. The dog in the Zoological Garden is of a white colour, with somewhat of a yellow tinge. Some of the Esquimaux dogs are brindled, some black and white, some almost entirely black, and some are of a dingy red. Their coat is thick and furry ; the hair, in winter, being from three to four inches long : nature has also provided them with an under coating of close soft wool, at that season, which they lose in spring ; so that they endure their climate with comparative comfort. They never bark ; but have a long melancholy howl, like the wolf. They are familiar and domestic ; but snarl and fight amongst themselves, much more than dogs in general. The specimen in the Zoological Garden is good-tempered, and delights to be noticed and caressed, even by strangers.

The Esquimaux, a race of people inhabiting the most northerly parts of the American continent, and the adjoining islands, are dependent upon the services of this faithful species of dog for most of the few comforts of their lives ; for assistance in the chase ; for carrying burdens ; and for their rapid and certain conveyance over the trackless snows of their dreary plains. The dogs, subjected to a constant dependence upon their masters, receiving scanty food and abundant chastisement, assist them in hunting the seal, the rein-deer, and the bear. In the summer, a single dog carries a weight of thirty pounds, in attending his master in the pursuit of game : in winter, yoked

in numbers to heavy sledges, they drag five or six persons at the rate of seven or eight miles an hour, and will perform journeys of sixty miles a day. What the rein-deer is to the Laplander, this dog is to the Esquimaux. He is a faithful slave, who grumbles, but does not rebel; whose endurance never tires; and whose fidelity is never shaken by blows and starving. These animals are obstinate in their nature; but the women, who treat them with more kindness than the men, and who nurse them in their helpless state, or when they are sick, have an unbounded command over their affections; and can thus catch them at any time, and entice them from their huts, to yoke them to the sledges, even when they are suffering the severest hunger, and have no resource but to eat the most tough and filthy remains of animal matter which they can espy on their laborious journeys.

The mode in which the Esquimaux dogs are employed in drawing the sledge, is described in a very striking manner by Captain Parry, in his "Journal of a Second Voyage for the Discovery of a North-West Passage." We should diminish the value of the narrative were we to abridge it.

"When drawing a sledge, the dogs have a simple harness (*ainoo*) of deer or seal-skin, going round the neck by one bight, and another for each of the fore-legs, with a single thong leading over the back, and attached to the sledge as a trace. Though they appear at first sight to be huddled together without regard to regularity, there is, in fact, considerable attention paid to their arrangement, particularly in the selection of a dog of peculiar spirit and sagacity, who is allowed, by a longer trace, to precede the rest as leader, and to whom, in turning to the right or left, the driver usually addresses himself. This choice is made without regard to age or sex; and the rest

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of the dogs take precedence according to their training or sagacity, the least effective being put nearest the sledge. The leader is usually from eighteen to twenty feet from the fore part of the sledge, and the hindmost dog about half that distance ; so that when ten or twelve are running together, several are nearly abreast of each other. The driver sits quite low, on the fore part of the sledge, with his feet overhanging the snow on one side, and having in his hand a whip, of which the handle, made either of wood, bone, or whalebone, is eighteen inches, and the lash more than as many feet, in length : the part of the thong next the handle is platted a little way down to stiffen it, and give it a spring, on which much of its use depends ; and that which composes the lash is chewed by the women, to make it flexible in frosty weather. The men acquire from their youth considerable expertness in the use of this whip, the lash of which is left to trail along the ground by the side of the sledge, and with which they can inflict a very severe blow on any dog at pleasure. Though the dogs are kept in training entirely by fear of the whip, and, indeed, without it, would soon have their own way, its immediate effect is always detrimental to the draught of the sledge ; for not only does the individual that is struck draw back and slacken his trace, but generally turns upon his next neighbour, and this passing on to the next, occasions a general divergency, accompanied by the usual yelping and shewing of the teeth. The dogs then come together again by degrees, and the draught of the sledge is accelerated ; but even at the best of times, by this rude mode of draught, the traces of one-third of the dogs form an angle of thirty or forty degrees on each side of the direction in which the sledge is advancing. Another great inconvenience attending the Esquimaux method of putting the dogs to, besides that of not employing their

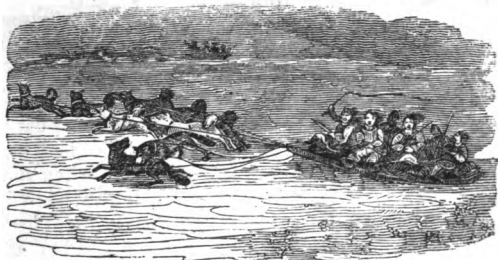
strength to the best advantage, is the constant entanglement of the traces by the dogs repeatedly doubling under from side to side to avoid the whip ; so that, after running a few miles, the traces always require to be taken off and cleaned.

“ In directing the sledge, the whip acts no very essential part, the driver for this purpose using certain words, as the carters do with us, to make the dogs turn more to the right or left. To these a good leader attends with admirable precision, especially if his own name be repeated at the same time, looking behind over his shoulder with great earnestness, as if listening to the directions of the driver. On a beaten track, or even where a single foot or sledge-mark is occasionally discernible, there is not the slightest trouble in guiding the dogs : for even in the darkest night, and in the heaviest snow-drift, there is little or no danger of their losing the road, the leader keeping his nose near the ground, and directing the rest with wonderful sagacity. Where, however, there is no beaten track, the best driver among them makes a terribly circuitous course, as all the Esquimaux roads plainly shew ; these generally occupying an extent of six miles, when, with a horse and sledge, the journey would scarcely have amounted to five. On rough ground, as among hummocks of ice, the sledge would be frequently overturned, or altogether stopped, if the driver did not repeatedly get off, and by lifting or drawing it to one side, steer clear of those accidents. At all times, indeed, except on a smooth and well made road, he is pretty constantly employed thus with his feet, which, together with his never-ceasing vociferations, and frequent use of the whip, renders the driving of one of these vehicles by no means a pleasant or easy task. When the driver wishes to stop the sledge, he calls out ‘ Wo, woa,’ exactly as our carters do, but the

attention paid to this command depends altogether on his ability to enforce it. If the weight is small, and the journey homeward, the dogs are not to be thus delayed ; the driver is therefore obliged to dig his heels into the snow to obstruct their progress, and having thus succeeded in stopping them, 'he stands up with one leg before the foremost cross-piece of the sledge, till, by means of laying the whip gently over each dog's head, he has made them all lie down. He then takes care not to quit his position, so that should the dogs set off, he is thrown upon the sledge instead of being left behind by them.

" With heavy loads, the dogs draw best with one of their own people, especially a woman, walking a little way a-head ; and in this case they are sometimes enticed to mend their pace by holding a mitten to the mouth, and then making the motion of cutting it with a knife, and throwing it on the snow, when the dogs, mistaking it for meat, hasten forward to pick it up. The women also entice them from the huts in a similar manner. The rate at which they travel depends, of course, on the weight they have to draw, and the road on which their journey is performed. When the latter is level, and very hard and smooth, constituting what, in other parts of North America, is called 'good sleighing,' six or seven dogs will draw from eight to ten hundred weight, at the rate of seven or eight miles an hour, for several hours together ; and will easily, under these circumstances, perform a journey of fifty or sixty miles a day. On untrodden snow, five-and-twenty or thirty miles would be a good day's journey. The same number of well-fed dogs, with a weight of only five or six hundred pounds, (that of the sledge included,) are almost unmanageable, and will, on a smooth road, run any way they please, at the rate of ten miles an hour. The work performed by a greater number of

dogs is, however, by no means in a proportion to this, owing to the imperfect mode already described, of employing the strength of these sturdy creatures, and to the more frequent snarling and fighting occasioned by an increase of numbers."



Esquimaux Dogs and Sledge.

The dogs of the Esquimaux offer to us a striking example of the great services which the race of dogs has rendered to mankind in the progress of civilisation. The inhabitants of the shores of Baffin's Bay, and of those still more inclement regions to which our discovery ships have recently penetrated, are perhaps never destined to advance much farther than their present condition in the scale of humanity. Their climate forbids them attempting the gratification of any desires beyond the commonest animal wants. In the short summers, they hunt the rein-deer for a stock of food and clothing ; during the long winter, when the stern demands of hunger drive them from their snow-huts to search for provisions, they still find a supply in the rein-deer ; in the seals which lie in holes under the ice of the lakes, and in the bears which prowl about on the frozen shores of the sea. Without the exquisite scent and the undaunted courage of their dogs, the several objects of their chase could

never be obtained in sufficient quantities, during the winter, to supply the wants of the inhabitants ; nor could the men be conveyed from place to place over the snow, with that celerity which greatly contributes to their success in hunting. In drawing the sledges, if the dogs scent a single rein-deer, even a quarter of a mile distant, they gallop off furiously in the direction of the scent ; and the animal is soon within reach of the unerring arrow of the hunter. They will discover a seal-hole entirely by the smell, at a very great distance. Their desire to attack the ferocious bear is so great, that the word *nennook*, which signifies that animal, is often used to encourage them, when running in a sledge : two or three dogs, led forward by a man, will fasten upon the largest bear without hesitation. They are eager to chase every animal but the wolf ; and of him they appear to have an instinctive terror, which manifests itself, on his approach, in a loud and long-continued howl. Certainly there is no animal which combines so many properties useful to his master as the dog of the Esquimaux.

With the exception of that most serviceable property of drawing and carrying burthens, most of the various races of dogs have, in a similar manner, assisted mankind in subduing the earth. In our own country, the wolf, the brown bear, and the boar, were once common ; they are now extirpated. This result, without which civilization must have very slowly advanced, could not have been effected without the assistance of the dog. Cuvier, the great French naturalist, says, " the dog is the most complete, the most remarkable, and the most useful conquest ever made by man. Every species has become our property ; each individual is altogether devoted to his master, assumes his manners, knows and defends his goods, and remains attached to him until death ; and all this proceeds neither from want nor constraint,

but solely from true gratitude, and real friendship. The swiftness, the strength, and the scent of the dog, have created for man a powerful ally against other animals, and were perhaps necessary to the establishment of society. He is the only animal which has followed man through every region of the earth." Buffon says, "the art of training dogs seems to have been the first invented by man; and the result of it was the conquest and peaceable possession of the earth." But this art would never have become perfectly successful and completely universal, had there not been in the race of dogs a natural desire to be useful to man; an aptitude for his society; a strong and spontaneous longing for his friendship. Burchell, a distinguished traveller in Africa, has observed, that we never see in various countries an equal familiarity with other quadrupeds, according to the habits, the taste, or the caprice of different nations; and he thence concludes, that the universal friendship of the man and the dog must be the result of the laws of nature. With singular propriety, therefore, has the name *Canis familiaris* been assigned by Linnæus to the species.

The dogs of the Esquimaux lead always a fatiguing, and often a very painful life. They are not, like the Siberian dogs (to which they bear a considerable resemblance,) turned out in the summer to seek their own sustenance: at that period they are fat and vigorous; for they have abundance of *kaow*, or the skin and part of the blubber of the walrus.* But their feeding in winter is very precarious. Their masters have but little to spare; and the dogs become mise-

* The attachment of these dogs to the taste and smell of fat is as remarkable as the passion of the Cossacks for oil. At Chelsea, there are two domesticated Esquimaux dogs, that will stand, hour after hour, in front of a candle-maker's workshop, snuffing the savoury effluvia of his melting tallow.

rably thin, at a time when the severest labour is imposed upon them. It is not, therefore, surprising that the shouts and blows of their drivers have no effect in preventing them from rushing out of their road, to pick up whatever they can descry; or that they are constantly creeping into the huts, to pilfer any thing within their reach : their chances of success are but small; for the people within the huts are equally keen in the protection of their stores, and they spend half their time in shouting out the names of the intruders (for the dogs have all names,) and in driving them forth by the most unmerciful blows. This is a singular, but, from the difference of circumstances, not unnatural contrast to the treatment of dogs described in Homer. The princes of the Trojan war allowed their dogs to wait under their tables, to gather up the remains of their feasts. In the twenty-third book of the Iliad, it is mentioned that Patroclus had no fewer than nine such humble retainers. The same princes, too, as we learn in the tenth book of the Odyssey, carried home to their dogs the fragments which fell from the tables of their entertainers. Amongst these fragments were the soft and fine parts of bread, called *απομαγδαλαι*, with which the guests wiped their fingers when the meal was finished, and which were always a perquisite to the dogs. In allusion, probably, to this custom, the woman of Canaan says, "the dogs eat of the crumbs which fall from their master's table."

The hunger which the Esquimaux dogs feel so severely in winter, is somewhat increased by the temperature they live in. In cold climates, and in temperate ones in cold weather, animal food is required in larger quantities than in warm weather, and in temperate regions. The only mode which the dogs have of assuaging or deceiving the calls of hunger, is by the distention of the stomach with any filth which they can find to swallow. The wolves and rein-deer of the

polar countries, when pressed by hunger in the winter, devour clay. The Kamschatkans sometimes distend their stomachs with saw-dust. Humboldt relates that the Otomacs, during the periodical inundation of the rivers of South America, when the depth of the water prevents their customary occupation of fishing, appease their hunger, even for several months, by swallowing a fine unctuous clay, slightly baked. Many other instances of this nature are given in Dr. Elliotson's learned and amusing Notes to his edition of Blumenbach's Physiology. The painful sense of hunger is generally regarded as the effect of the contraction of the stomach, which effect is constantly increased by a draught of cold liquid. Captain Parry mentions that in winter the Esquimaux dogs will not drink water, unless it happen to be oily. They know, by experience, that their cravings would be increased by this indulgence, and they lick some clean snow as a substitute, which produces a less contraction of the stomach than water. Dogs, in general, can bear hunger for a very long time, without any serious injury, having a supply of some substance for the distension of their stomachs. It is mentioned in the Memoirs of the French Academy of Sciences, that a bitch, which had been shut up and forgotten in a country house, was sustained for forty days without any nourishment beyond the wool of a quilt, which she had torn in pieces. A dog has been known to live thirty-six days without food, or substitute for food.

We have already noticed that the Esquimaux dogs do not bark. This is a peculiarity of many varieties of the dog; but very rarely of those which are natives of temperate countries. Probably this is an effect of high as well as of low temperature. Sonnini says, that the people of Upper Egypt have a species of dog resembling the shepherd's dog, with voices so weak, that their barking can scarcely be heard. Co-

lumbus observed, that the voices of the dogs which he took to the West Indies became feeble. In both cases the tropical climate probably produced this result. The prophet Isaiah alludes to this peculiarity, in his denunciation of idle instructors: "They are dumb dogs, and cannot bark."

The inhabitants of Holland and the Netherlands have long been accustomed to the use of dogs for purposes of draught. Pennant mentions, that in those countries they draw little carts to the herb-markets. In London, within these few years, the use of dogs in dragging light vehicles has become very general; and though their strength is rarely employed in combination, as is the case with the Esquimaux sledge-dogs, their energy makes them capable of moving very considerable weights. There are many bakers in the more populous parts of London who have a travelling shop upon wheels, drawn by one or two stout mastiffs or bull-dogs. But the venders of cat's meat appear to have derived the largest benefit from



this application of animal power. The passenger through the narrow streets and lanes of London is often amused by the scenes between the consumers of the commodity and those who bring it to the houses. At the well known cry of the dealer, the cats of a whole district are in activity—anxiously peeping out of the doors for the expected meal, and sometimes fearlessly approaching the little cart, without apprehension of their supposed enemy who draws it.

The dogs attached to these carts appear to have no disposition to molest the impatient groups of cats who gather around them. The habit of considering dogs and cats as natural enemies has tended to the production of a great deal of cruelty. It is true that dogs will, by instinct, pursue anything which flies from them; and puppies will thus run after, and frequently kill, chickens. But dogs, by chastisement, may be made to comprehend that nothing *domestic* must be molested. Beckford, a writer on hunting, alludes to the circumstance of buck-hounds playing with deer on a lawn, within an hour or two after a chase of the same species. There is at present a tame doe in the streets of London, belonging to some person near St. Clement's Church-yard, which the passing dogs never affront; and we have seen, some years ago, at Goodwood, the seat of the Duke of Richmond, a pack of fox-hounds, on their way to cover, go close to a fox chained at the outer gate of their kennel, without taking the slightest notice of him. This, at any rate, shews that dogs have their instincts under subjection to the commands of their friend and master, man.

The Newfoundland dogs, one of the most active and sagacious varieties, are employed in their native districts to draw carts and sledges, laden with wood and fish, and to perform a variety of useful offices, in the place of the horse. In many of the northern

countries, the bold and powerful races of dogs are thus rendered peculiarly valuable. A century ago, nearly all the travelling intercourse of Canada was carried on by dogs. The superiority of the Newfoundland dogs in swimming is well known : they are semi-webbed between the toes, which mechanism of the foot is of the greatest advantage to them ; presenting, as it does, an extended surface to press away the water from behind, and then collapsing, when it is drawn forward, previous to making the stroke. The hereditary habits of these dogs, too, eminently qualify them for swimming, or rowing through the water, as the action is more correctly described by Sir Everard Home. It is thus that we have the most abundant instances of human life being saved by these generous and courageous animals. All dogs, however, can swim ; although some dislike the water, and take to it with difficulty at the bidding of their masters. The bull-dog would appear the least likely to combat with a heavy sea, as the Newfoundland dogs often do ; and yet the following circumstance is well authenticated :—On board a ship, which struck upon a rock near the shore during a gale, there were three dogs, two of the Newfoundland variety, and an English bull-dog, rather small in growth, but very firmly built and strong. It was important to have a rope carried ashore ; and as no boat could live for an instant in the breakers towards the land, it was thought that one of the Newfoundland dogs might succeed ; but he was not able to struggle with the waves, and perished. The other Newfoundland dog, upon being thrown overboard with the rope, shared a similar fate. But the bull-dog, though not habituated to the water, swam triumphantly to land, and thus saved the lives of the persons on board. Among them was his master, a military officer, who still has the dog in his possession.



Dog of the Mackenzie River.

In the northern parts of the continent of America, there are dogs of a very different variety from those of the Esquimaux. They are slender and graceful, with sharp nose and pricked ears, and very much resemble, except in colour, the arctic fox of the same regions. Indeed these dogs are considered a variety of this fox — (*canis lagopus*.) Three of this species, from the Mackenzie River, are in the gardens of the Zoological Society. They were presented by Captain Franklin and his scientific companion, Dr Richardson. Their hair is exceedingly fine and silky, increasing in thickness in the winter, and then also becoming more generally white. The specimen in the above woodcut was drawn in the autumn, when the black parts of the coat were distinctly marked; those parts are now (the beginning of February) of a much lighter colour — somewhat of a slaty grey. This variety is

cultivated by the Hare Indians ; and, from its light make and the breadth of its feet, is peculiarly fitted for chasing the moose deer over the snow, without sinking, as a heavier dog would do.

The dog of the Laplander, which watches the herds of the rein-deer to guard them from the attacks of wolves, which collects them when they are dispersed, and assists his master in driving them to the fold to be milked, is a different variety from that of the Mackenzie River, but is somewhat-similar in its slighthness and colour.

The changes in the quantity and colour of their clothing, which almost all polar animals undergo with the change of seasons, is one of the most remarkable and beautiful provisions of nature. The fur, or wool, or feathers, with which quadrupeds and birds are covered, is regulated generally as to its quality and quantity by the temperature of the region which the animal inhabits. The dogs of Guinea, the Indian sheep, and the African ostrich, are so thinly clothed that they may be considered almost naked. The temperature of their bodies is thus necessarily diminished in proportion to the heat of the climate in which they live. The Iceland sheep and the Esquimaux dog, on the contrary, are covered with a warm coat, both of hair and wool, which enables them to bear the most intense cold without much inconvenience. Previous to winter, the hair of all animals is increased in quantity and length, and the more they are exposed the greater is the increase. Horses and cows, housed during the winter, have short and thin hair, in comparison with those exposed to the weather, whose coats become shaggy. The groom is aware of this arrangement of nature, and he redoubles his labour in winter to give his horse a fine coat, and thus to render him unfit for exposure to the cold. The agents of the Hudson's bay Com-

pany, who annually transmit to Europe many thousands of the most valuable furs, will only purchase of the Indians, with whom they traffic, those which are obtained during the winter. The furs of those animals of North America which are killed in the summer are quite unfit for purposes of commerce, and they are of an inferior quality early in the winters of unusual mildness. The growth of the hair is dependent upon the temperature of the atmosphere ; and thus the skins of hares and rabbits with us are seldom ripe in the fur, as it is called, till frosty weather has set in. The moulting of birds, which takes place previous to winter, after their young are reared, is a similar provision of nature. By the renewal of the feathers, a sufficient covering is afforded to enable them to bear the approaching change of season.

The changes of *colour* in many of the polar animals, and in others with which we are more familiar, though an undisputed fact, is not generally understood as proceeding from the same principle of adaptation to the change of season, as the increase in the quantity of their clothing. The Alpine hare, which is found in Scotland, is in summer of a tawny gray ; in winter it becomes of a snowy white. The ermine, which is also found in the British islands, has its summer coat of a reddish brown ; in winter it affords the beautiful white fur which is so generally known, and with which the robes of our judges are adorned. At the Duke of Devonshire's villa at Chiswick, there is a fine specimen of the Arctic fox. When we saw it in September, the colour was of a dingy blue ; in January it was perfectly white. The plumage of the ptarmigan, a bird of the grouse species which breeds in Scotland, is of an ash colour, with dusky spots, in summer, and of a pure white in winter. The rapidity with which the colours change, and the extent of

the alteration, in these examples and in other animals, always depend upon the severity of the season. But the advantage of the change, whether it be complete or incomplete, is sufficiently evident, when we take into consideration a well known philosophical principle. Every one is aware that in summer a black hat produces a much stronger sense of heat to the wearer than a white one. The same thing occurs to animals of a black and white colour. If they are placed in a higher temperature than that of their own bodies, the heat will enter the one that is black with the greatest rapidity, and elevate its temperature very much above that of the other. When these animals, on the contrary, are placed in a situation where the temperature is considerably lower than that of their own bodies, the black animal will give out its heat by radiation to every surrounding object colder than itself, much more quickly than the white animal. The surface which reflects heat most readily, as in objects of a white colour, suffers it to escape but slowly by radiation; and it is for this reason that the white animal has its temperature reduced most slowly in the winter.* The change of colour in the clothing of some quadrupeds and birds exposed to severe cold, as well as the increase in the quantity of their outward protection against its effects, forms one of those beautiful provisions of the Author of Nature which we recognise in every examination of his works, but which we sometimes overlook in our hasty notice of ordinary appearances, without regard to the causes from which they spring.

The dogs of the Mackenzie River in the gardens of the Zoological Society are extremely gentle. They

* See Fleming's *Philosophy of Zoology*, vol. ii. The protection of the animal from pursuit is by some considered another end answered by the colour resembling that of the surrounding snow.

retain, however, something of a wild nature. One of them was allowed, some time since, to run by the side of a gentleman connected with the society. For a little while he was tractable ; but he suddenly darted away, and was only retaken after a sharp chase, not very different from a fox-hunt. One of them, which was whelped in this country, barks—a property which would appear either to indicate that barking is a peculiarity of the domestication of the dog, or an effect of temperature.

Many of the dogs of the northern regions can only be considered as half-domesticated. The Esquimaux dogs, and those of the Laplanders, are indeed faithful to their masters, return caresses for blows, and are to a certain extent obedient ; but even these rebel against authority, and fear no chastisement, when they desire to satisfy their voracious appetites. The probability is that they would be entirely obedient if they were regularly fed. As man in a highly civilized state acquires the greatest command over his instinctive powers, so the inferior animals, and dogs in particular, partake of this effect of civilization. An English household dog will enter a larder, even when hungry, and not touch the provisions which he finds unguarded ; the Esquimaux dog, on the contrary, is always contending with the family of his master for a share of their scanty fare. An experienced pointer passes by the place from which he has seen a covey spring, without indulging the feelings which must be aroused by the scent which the birds have left behind ; the Esquimaux dog often drags away his sledge in the direction of a rein-deer or a seal, quite uncontrollable by his surly master. Perhaps the education of each variety may have much to do with this. Those who have studied the training of sporting dogs have observed that gentle chastisements, often repeated, and mixed with kindness,

produce the most perfect obedience, while hasty severity frightens the animal for the moment, but leaves no permanent impression. The feeding of a kennel of fox-hounds is one of the most striking illustrations of the power of training to produce complete obedience. The energy and even fierceness of these dogs cannot be overlooked ; there is nothing slavish and crouching in their demeanour. They are hungry, and they know they are about to be fed ; but they manifest no rebellious impatience. The feeder stations himself at the door which separates the outer kennel from the feeding room. At his presence a cry of joy is set up by the whole pack, but it is instantly silenced at his command. He calls "Juno"—Juno passes out ; "Ponto"—Ponto follows ; and so on through the pack, even if there be thirty couple. If a young dog should attempt to go out of his order, he is turned back ; he recollects the punishment, and he seldom again transgresses. The pack has arrived at this state of perfect discipline by gentle correction, and, what is more important, by a system of *mutual instruction*, if we may venture so to express this particular force of example. In the kennels of packs of fox-hounds the following barbarous custom of the dogs towards one another has been sometimes observed. If a hound gets down of his own accord from the bench on which he is lying, no notice of it is taken by the others. But if a hapless hound falls off the bench from awkwardness, his companions fly at him and bite him to death.

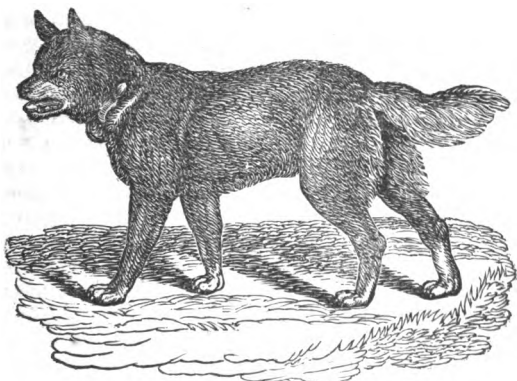
The dogs of Kamtschatka, as described in Von Langsdorff's Travels, when, in summer, they are not wanted to draw the sledges of the inhabitants, are left to rove at large and find their own food. They keep on the seashore, or in the neighbourhood of rivers, lurking after fish, and standing in the water

up to their bellies : when they see a fish, they snap at it with unerring aim. In the autumn, they return of their own accord to their particular owners in the villages. Hunger may have something to do with this voluntary resignation of their liberty after their absolute freedom ; and the author from whom we gather these particulars attributes the circumstance wholly to hunger ; but it appears to us that habit contributes an equally powerful motive, and that the two motives both operate. A herd of cows, which come of their own will to the farm-yard at milking time, from a distant pasture, desire to be relieved of the burthen of their swollen udders ; and they know from habit, and the example of other cows who have thus acted, in what manner, and at what period, that relief will be afforded them. Many of the inferior animals have a distinct knowledge of time. The sun appears to regulate the motions of those which leave their homes in the morning, to return at particular hours of the evening. The Kamtschatka dogs are probably influenced in their autumnal return to their homes by a change of temperature. But in those animals possessing the readiest conceptions, as in the case of dogs in a highly civilized country, the exercise of this faculty is strikingly remarkable. Mr. Southey, in his *Omniana*, relates two instances of dogs who had acquired such a knowledge of time as would enable them to count the days of the week. He says, “ my grandfather had one which trudged two miles *every Saturday* to cater for himself in the shambles. I know another more extraordinary and well-authenticated example. A dog, which had belonged to an Irishman, and was sold by him in England, would never touch a morsel of food *upon Friday*.” The same faculty of recollecting intervals of time exists, though in a more limited extent, in the horse. We

knew a horse (and have witnessed the circumstance,) which, being accustomed to be employed once a week on a journey with the newsman of a provincial paper, always stopped at the houses of the several customers, although they were sixty or seventy in number. But, further, there were two persons on the route who took one paper between them, and each claimed the privilege of having it first on the alternate Sunday. The horse soon became accustomed to this regulation; and although the parties lived two miles distant, he stopped once a fortnight at the door of the half-customer at Thrope, and once a fortnight at that of the other half-customer at Chertsey, and never did he forget this arrangement, which lasted several years, or stop unnecessarily, when he once thoroughly understood the rule.

Amongst the dogs which may be considered in a half-domesticated state are those of New South Wales. The species is common in the neighbourhood of Port Jackson, and is found on all parts of the coast.

The following cut is from a fine male specimen in the Zoological Garden. This dog was presented to the Zoological Society by Captain Murray. The Australasian dog is classed by M. Desmarest as a variety of the *matin*, a class which includes the *matin* of France, the Danish dog, the common greyhound, the Irish greyhound, &c. His shape and proportions, as described by the same accurate observer, are like those of the shepherd's dog, excepting the head, which entirely resembles the French *matin*. His body is thick with hair; his tail bushy: the hair is of two sorts; one woolly and gray, the other silky and of a deep yellow. The colour is deepest on the top of the head, and on the upper parts of the neck and tail, and the back: the under parts of the neck and tail are paler:



Australasian Dog, or Dingo.—SHAW.
Canis famul. Australasia.—DESMAREST.

the muzzle and face, and the inner side of the hams, are whitish. The tail has eighteen vertebræ* (dogs in general have nineteen.) The length of the carcase, from the point of the nose to the commencement of the tail, is two feet, five inches. This dog possesses great agility, and is full of courage ; when running, he carries his head up, and his tail raised or extended horizontally ; and he is very voracious, seizing upon every sort of animal food that comes in his way.

The Australasian dog in the Zoological Gardens differs very little from these particulars. It is difficult to describe colours by words ; but it appears to us, that the animal partakes more of red than yellow. He is kept strictly confined, though gentle under confinement ; but for some time he retained his natural wild aspect. Mr. Pennant relates that a similar

* Desmarest.

dog brought to this country was very voracious and fierce ; and that he leaped on the back of an ass, and would have destroyed it in a short time, had not the animal been rescued. Mr. Gray, in his Appendix to Captain King's Survey of the Coast of Australia, says, that "although occasionally domesticated in New South Wales, they never lose the sly habits peculiar to their breed, nor can be prevented from killing poultry, or biting sheep." This account is quite borne out by the character of the individual dog before us. Since his arrival in England, at the house of a nobleman where he was confined, he one night broke his chain ; scoured over the country ; and, before morning, had destroyed several sheep.

The natural habits of the species, even in dogs, are not entirely overcome by domestication. The well-fed dog, however he may know from experience that he shall receive a regular meal from the hand of his master, often hides his food ; although, perhaps, he never returns to his concealed stores : this is an hereditary habit, transmitted to him from a distant period, when his species were dependent upon chance for the supply of their necessities. The Australasian dog, who is taken from a country very imperfectly civilized, and who has perhaps lived in packs, associated in the pursuit of the penguin and the kangaroo, cannot readily put on the subordination of the mastiff or the spaniel. Even among the best disciplined domestic dogs of our own country, the ancient instinct, which renders them beasts of prey, sometimes breaks out. We recollect several instances within our own knowledge, of house-dogs having taken, as the farmers expressed it, to worrying sheep : they would do this slyly ; and would sometimes effect the most lamentable destruction. There is no remedy short of the capital punishment of such offenders ; for they can never be broken of the habit, when

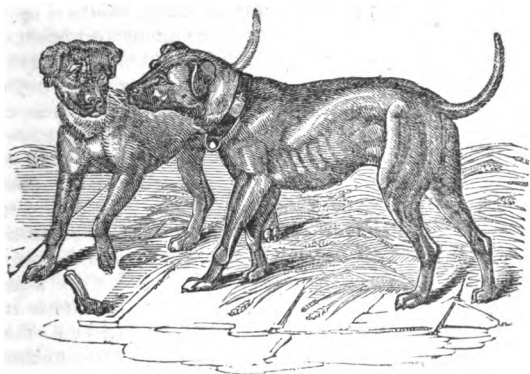
it has been once indulged. Bewick, in his *History of Quadrupeds*, relates a story of a dog, who, in 1784, had been left on the coast of Northumberland by the crew of a smuggling vessel. Finding himself deserted, and without food, he began to worry sheep, and was soon the terror of the country. He would bite a hole in the right side of the poor animals, eat the fat about the kidneys, and then leave them. The farmers were so much alarmed by his depredations, that very extraordinary means were used for his destruction : they chased him with dogs, as they would a fox or wolf ; but when the dogs came up to their guilty fellow, he invariably lay down in a supplicating posture, and thus they could never be induced to harm him. He was one day pursued from Howick to upwards of thirty miles distance ; but he returned thither, and killed sheep the same evening. He was at last shot, after a three months' career of murder, upon a rock which commanded a view of four roads ; and where he constantly sat, like a guilty outlaw, watching the approach of his pursuers, and ready for escape. The practice of this dog was evidently the result of an hereditary instinct, accidentally called into action by want of food.

Not only are natural habits transmitted especially to dogs, by their parents, but even some of their acquired qualities. The pointer is of Spanish origin ; and those of the stanchest kind in this country are crossed with the fox-dog, to increase their speed. The natural instinct of the pointer, as seen at the present day, in the true Spanish race, is to wind game ; to steal upon them by surprise ; and then, pausing for an instant, to spring upon them with an unerring aim, derived from this pause. The crossed breed, which we possess, is less disposed, by its original nature, to stop at game, than the Spanish progenitor. But education has converted the rapid rest

and spring of the original Spanish pointer into the fixed and deliberate rest of the staunch dog ; as a writer on this subject has quaintly, but forcibly, expressed it, "this sort of semicolon in his proceedings man converts into a full stop."* The *cultivated* staunchness of the pointer is inherited by his puppy, which may be seen earnestly standing at pigeons or sparrows, in a farm-yard : he inherits the acquired faculty of his parent ; and his master afterwards gives it a direction. Such acquired hereditary habits will probably last through many generations of animals. Near Patara, in Asia Minor, Captain Beaufort, as he states in his "*Karamania*," found immense numbers of red-legged partridges (*tetrao rufus*.) This country was formerly extremely populous ; and its partridges are mentioned in the ancient classics : it is now almost deserted. Partridges, as well as other birds, acquire shyness artificially, from their terror of man ; and yet Captain Beaufort found these birds, which, individually, could have had no apprehension of the human race, extremely wild, to use the sportsman's phrase. Might not this shyness have been transmitted to them as an hereditary habit, from the times when the country was populous, and they were pursued by the inhabitants ?

There is a pair of very beautiful mastiffs from Cuba in the garden of the Zoological Society. During the summer they were chained to separate kennels, as mastiffs usually are ; through the winter, they have been placed in a den, perfectly sheltered from the weather. In their general form they very much resemble the English mastiff, the *Canis familiaris anglicus* of Desmarest, whose principal characteristics are,—a very short head, similar, in a great degree, to the head of the bull-dog, the dis-

* Thoughts and Recollections, by One of the last Century.



Spanish Mastiffs from Cuba.

tinctive mark of which is a flat fore-head ; the ears pendant, and never erect ; the lips falling, covering the lower jaw ; the extremity of the tail turned upwards ; a fifth claw on the hind foot, more or less developed ; the nostrils separated one from another by a very deep furrow ; the hair generally close and short ; the colour various. The Cuba mastiffs above represented are of a rufous-brown, extremely beautiful ; with their muzzles approaching to a jet black : they are tractable and gentle.

The bare mention of the dogs of South America must call up some of the most painful recollections in the history of the human race. The dog was entirely unknown to the inhabitants of the New World, before the period when it was introduced there by the Europeans ; if we except an extremely small species, called the Alco, which the Peruvians are represented

to have domesticated as a sort of lap-dog. The only description which we have of this animal, is in a work by Fernandez ; and the rude drawing, which is there given of it, enables us to form no accurate notion of its peculiar character. At the island of St. Martha, Columbus found, according to Herrera's History of the Discovery of America, "many dogs which did not bark:" these are generally supposed to have been a species of wolf. The horse, the ox tribe, and the hog, were equally unknown to the Americans, before the discovery by the Spaniards. The conquerors introduced each species ; and they multiplied so amazingly, that the horses, the horned cattle, and the hogs, overran the whole country, and to this day are found on the continent of South America, in numerous herds ;—the horses always ready for the service of the natives, who are the best riders in the world ; and the bullocks constantly offering a supply of food, and so numerous, that they are sometimes slaughtered for their hides alone. The number of the dogs is much lessened ; but a century and a half ago, in Hispaniola, (now called Hayti,) Cuba, and all the Caribbee islands, they were in such quantities, that they were occasionally destroyed, to prevent their ravages upon the calves and foals of the wild cows and mares. According to the relations of the American voyagers of the seventeenth century, these dogs hunted in packs of fifty or sixty, and they would attack a herd of wild-boars without any fear. The late Bishop of Calcutta, Reginald Heber, in his Journal, confirms a statement which used to be doubted as to the wild dogs of India hunting ferocious beasts. He states, upon the authority of the Khaysa peasants, near the Chinese frontier, that a tiger is often killed and torn to pieces by large packs of these dogs, which give tongue, and possess a very fine scent. The American wild-dogs were very easily reclaimed to society. If their wheips

were taken to the towns, they would grow up in the most perfect submission : this appears to be the case with all wild dogs ; they never lose their respect for the human species ; and they never voluntarily separate themselves from that state of dependence upon us, which seems necessary for the gratification of an instinctive feeling. Even when they are without individual masters, dogs will frequent the abodes of man. They are found in this half-wild state at Lisbon, and at Constantinople and other cities of the east. They are driven as unclean from the houses of the Mahometans ; and yet the same people protect them, when they are roaming about their dwellings. The dog of the seven sleepers, according to a tale in the Koran of Mohamed, is the only quadruped admitted into heaven ; but the people of the east have more substantial reasons for patronising these half-wild dogs than they find in the legends of their faith. Volney, in his Travels, describes the dogs of Turkey and its dependencies as particularly useful in clearing the streets of the garbage and carrion, which would otherwise become the cause of pestilence and death. It is to this circumstance that the powerful, but somewhat revolting description of Lord Byron refers, in the poem of the Siege of Corinth :

“ I saw the lean dogs beneath the wall,
Howl o’er the dead their carnival,
Gorging and growling o’er carcass and limb—
They were too busy to bark at him.
From a Tartar’s skull they had stript the flesh,
As you peel a fig when the fruit is fresh.

The Tartar’s skull ’s in the wild-dog’s maw,
And the hair around his tangled jaw.”

From the earliest times, the dogs of the east appear to have been without masters. The following passage in the fifty-ninth Psalm evidently refers

to this custom : " At evening let them return ; and let them make a noise like a dog, and go round about the city. Let them wander up and down for meat, and grudge if they be not satisfied ;" or, according to another interpretation, " if they be not satisfied, there they will stay all night." Harmer, a commentator on the Bible, explains this passage, by stating the fact, that dogs in the east do not appear to belong to any particular persons, as our dogs do, nor to be fed distinctly by such as might claim some interest in them, but get their living how they can.

The circumstances attending the introduction of dogs into the South American continent and islands, and their subsequent wild state, are thus described in a singular book, " The History of the Buccaneers."

" But here the curious reader may, perhaps, inquire, how so many wild dogs came here. The occasion was, the Spaniards having possessed these isles, found them peopled with Indians, a barbarous people, sensual and brutish, hating all labour, and only inclined to killing, and making war against their neighbours, not out of ambition, but only because they agreed not with themselves in some common terms of language ; and perceiving the dominion of the Spaniards laid great restrictions upon their lazy and brutish customs, they conceived an irreconcilable hatred against them, but especially because they saw them take possession of their kingdoms and dominions ; hereupon they made against them all the resistance they could, opposing everywhere their designs to the utmost ; and the Spaniards finding themselves cruelly hated by the Indians, and nowhere secure from their treacheries, resolved to extirpate and ruin them, since they could neither tame them by civility, nor conquer them with the sword. But the Indians, it being their custom to make their woods their chief places of defence, at present made these their refuge,

whenever they fled from the Spaniards ; hereupon, those first conquerors of the New World made use of dogs to range and search the intricate thickets of woods and forests, for those their implacable and unconquerable enemies ; thus they forced them to leave their old refuge, and submit to the sword, seeing no milder usage would do it ; hereupon they killed some of them, and quartering their bodies, placed them in the highways, that others might take warning from such a punishment : but this severity proved of ill consequence ; for, instead of frightening them and reducing them to civility, they conceived such horror of the Spaniards, that they resolved to detest and fly their sight for ever : hence, the greatest part died in caves and subterraneous places of woods and mountains, in which places I myself have often seen great numbers of human bones. The Spaniards, finding no more Indians to appear about the woods, turned away a great number of dogs they had in their houses, and they finding no masters to keep them, betook themselves to the woods and fields to hunt for food to preserve their lives ; thus, by degrees, they became unacquainted with houses, and grew wild. This is the truest account I can give of the multitudes of wild dogs in these parts."

This dreadful narrative is abundantly confirmed even by the Spanish historians ; who seem, like the Buccaneer from whom we have quoted this passage, not to have had that natural horror of deeds of cruelty, with which the accounts of them must inspire us who look upon such things without passion or partiality. Columbus was in many respects a good and great man ; and yet, when he found, upon his return from Spain to Hispaniola, that the unfortunate people were in revolt against the oppressions of his soldiers, he was determined to put them to death, in the most cruel manner, for that resistance to tyranny which was

their natural right and duty. He went forth against the wretched people with his foot-soldiers and cavalry. The historian Herrera adds, "part of the force employed by Columbus, on this occasion, consisted of twenty blood-hounds, which made great havoc amongst the naked Indians." Only one of the writers of these times speaks of such cruelties as they deserve ; and he was an extraordinary enthusiast, who spent his whole life in the endeavour to mitigate the fury of the conquerors. The name of this benevolent man was Bartholomew Las Casas. Relating the events which took place in the island of Cuba, he says, "In three or four months I saw more than seven thousand children die of hunger, whose fathers and mothers had been dragged away to work in the mines. I was witness at the same time of other cruelties not less horrible. It was resolved to march against the Indians who had fled to the mountains. They were chased, like wild beasts, with the assistance of blood-hounds, who had been trained to the thirst for human blood. Other means were employed for their destruction, so that before I had left the island, a little time after, it had become almost entirely a desert." And a desert it has partly remained to this day. The coast, which was most populous at the time when Columbus first touched there, is that which extends westward of the city of Trinidad along the gulf of Xagua. Mr. Irving, the historian of Columbus, thus describes its present state :—"All is now silent and deserted : civilization, which has covered some parts of Cuba with glittering cities, has rendered this a solitude. The whole race of Indians has long since passed away, pining and perishing beneath the domination of the strangers whom they welcomed so joyfully to their shores." We shudder ; and yet this is only a page out of the great book of human history, which records but little else than evils committed upon

mankind, under the hateful names of conquest and glory.

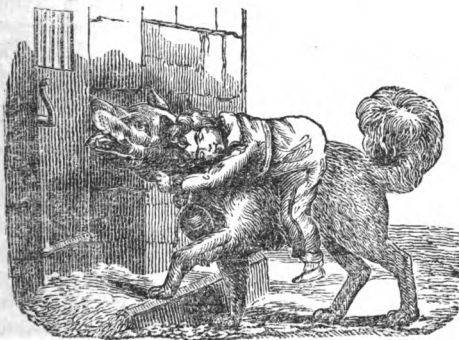
We could almost lose our love of dogs in thus learning how they have been trained for the most abominable purposes, did not our indignation more properly attach to those who so trained them. But the history of dogs will at once shew us that their sagacity, their quick scent, their courage, and their perseverance, may be equally well trained for good as for evil. It is delightful to turn from the blood-hounds of the conquerors of America to the Alpine spaniels of the monks of St. Bernard. These wonderful dogs have been usually called mastiffs, probably on account of their great strength ; but they strictly belong to the subdivision of Spaniels, amongst which are found the shepherd's dog, the Esquimaux dog, and the other varieties most distinguished for intelligence and fidelity.

The convent of the Great St. Bernard is situated near the top of the mountain known by that name, near one of the most dangerous passages of the Alps, between Switzerland and Savoy. In these regions the traveller is often overtaken by the most severe weather, even after days of cloudless beauty, when the glaciers glitter in the sunshine, and the pink flowers of the rhododendron appear as if they were never to be sullied by the tempest. But a storm suddenly comes on ; the roads are rendered impassable by drifts of snow ; the avalanches, which are huge loosened masses of snow or ice, are swept into the vallies, carrying trees and crags of rock before them. The hospitable monks, though their revenue is scanty, open their doors to every stranger that presents himself. To be cold, to be weary, to be benighted, constitute the title to their comfortable shelter, their cheering meal, and their agreeable converse. But their attention to the distressed does not end here. They devote themselves to the dangerous

task of searching for those unhappy persons who may have been overtaken by the sudden storm, and would perish but for their charitable succour. Most remarkably are they assisted in these truly Christian offices. They have a breed of noble dogs in their establishment, whose extraordinary sagacity often enables them to rescue the traveller from destruction. Benumbed with cold, weary in the search for a lost track, his senses yielding to the stupifying influence of frost, which betrays the exhausted sufferer into a deep sleep, the unhappy man sinks upon the ground, and the snow-drift covers him from human sight. It is then that the keen scent and the exquisite docility of these admirable dogs are called into action. Though the perishing man lie ten or even twenty feet beneath the snow, the delicacy of smell with which they can trace him offers a chance of escape. They scratch away the snow with their feet ; they set up a continued hoarse and solemn bark, which brings the monks and labourers of the convent to their assistance. To provide for the chance that the dogs, without human help, may succeed in discovering the unfortunate traveller, one of them has a flask of spirits round his neck, to which the fainting man may apply for support ; and another has a cloak to cover him. These wonderful exertions are often successful ; and even where they fail of restoring him who has perished, the dogs discover the body, so that it may be secured for the recognition of friends ; and such is the effect of the temperature, that the dead features generally preserve their firmness for the space of two years. One of these noble creatures was decorated with a medal, in commemoration of his having saved the lives of twenty-two persons, who, but for his sagacity, must have perished. Many travellers who have crossed the passage of St. Bernard, since the peace, have seen this dog, and have heard, around the blazing fire of the monks, the story of his extraordi-

nary career. He died about the year 1816, in an attempt to convey a poor traveller to his anxious family. The Piedmontese courier arrived at St. Bernard in a very stormy season, labouring to make his way to the little village of St. Pierre, in the valley beneath the mountain, where his wife and children dwelt. It was in vain that the monks attempted to check his resolution to reach his family. They at last gave him two guides, each of whom was accompanied by a dog, of which one was the remarkable creature whose services had been so valuable to mankind. Descending from the convent, they were in an instant overwhelmed by two avalanches ; and the same common destruction awaited the family of the poor courier, who were toiling up the mountain in the hope to obtain some news of their expected friend. They all perished.

A story is told of one of these dogs, who, having found a child unhurt whose mother had been destroyed by an avalanche, induced the poor boy to mount upon his back, and thus carried him to the gate of the convent. The subject is represented in a French print :—



In looking back upon the few, out of the many varieties of the dog, which we have already noticed, we cannot avoid observing the extraordinary modifications of which this quadruped has become susceptible. These modifications are so extensive, and have existed so long, that it is now impossible to decide which is the original breed. Buffon attempted a theory of this nature, but it is evidently unsupported by facts. Almost every country in the world possesses its different kind of dog, and in each of these kinds there are essential differences of character produced by education. The Esquimaux dog draws a sledge, the shepherd's dog guards a flock ; the mastiff protects a house, a dog very similar in nature worries a bull ; the Spanish blood-hound hunts the naked Indian to the death, while the dog of St. Bernard rescues the perishing man at the risk of his own life. The dog, certainly, has the greatest sympathies with man of all the race of quadrupeds ; and the nearer an animal approaches us, and the more easily he comprehends us, the more are we enabled to modify his nature and form his character. What is true of a species is also true of a class. The quadruped is more easily modified,—that is, the class is more susceptible of instruction,—than the bird, the bird than the insect, the insect than the fish. The difference between intelligence and instinct—the nice partition which divides these qualities,—has formed the subject of infinite speculation. The qualities are certainly not one and the same, as some philosophers have maintained. With regard to the different possession of the qualities, the animal kingdom has been thus divided : 1. Animals endowed with intelligence and instinct, comprising all the *vertebrated division*, since they possess a spino-cerebral, nervous apparatus, (the seat of intelligence,) and a nervous sympathising, or ganglionic system, (the seat of instinct ;)

2. Animals endowed with instinct only, comprising all the *invertebrated division*, since they only possess the ganglionic or sympathising nervous system, amongst all the species with visible nerves.* Of the vertebrated animals, those which most easily acquire habits from man are quadrupeds ; and of quadrupeds those which are most easily modified are the species which belong to those united in groups naturally, by the social affection. The further we descend in the scale of existence, the greater is the separation from man ;—till at last arriving at the vegetable, we find a living substance capable of modification without any effort of its own will ; and thus, having only spontaneous inclinations for heat and light and moisture, undergoing much greater changes from cultivation than animals, however docile. With regard to those animals in the highest scale next to man, the more artificial are their habits, the more are they modified by the circumstances of their domestication. On the contrary, the more natural their habits, the fewer are the deviations from their specific character. The Esquimaux dog and the Dingo differ very slightly from the wolf, which probably is of the same original family. The petted spaniel could scarcely be recognized as belonging to the species.

The senses of the higher quadrupeds, such as the dog and the horse, are the instruments by which man employs them for his use ; and he renders those senses more powerful, in proportion as he cultivates the faculties by which the senses are disciplined. Thus, the senses which are most called into action in the dog are those of smell and hearing. The compensation, if we may so express it, with which Nature balances her gifts, is very remarkable.

* See the article " L'Instinct," in " Nouveau Dictionnaire d'Histoire Naturelle," 2d edit.

The chamois, which dwells on the mountains, has a very long sight; the rhinoceros, which inhabits the marshes, sees very keenly for a short distance: the weaker animals, such as rabbits and hares, have the most exquisite sense of hearing; the beasts of prey have piercing eyes, but their ears are dull.* The force of one sense generally compensates for the weakness of another. Thus, dogs have not a very powerful sight, (with the exception of the greyhound, which does not smell keenly,) but their smell, and generally their hearing, are exquisite. It is the perfection of each of these senses that renders dogs so valuable to man in procuring his food and guarding his property.

Without attempting to explain the peculiar construction of the organ of smell (which would presuppose a knowledge of the meaning of anatomical terms), it may be mentioned that the nasal organs (the nostrils) are most extensively evolved or unfolded, wherever the sense of smell is the most exquisite. Blumenbach states that, in the head of a North American Indian—a leader of his nation, who was executed at Philadelphia about fifty years ago,—the internal nostrils were found of a most extraordinary size. The wonderful acuteness of smell possessed by these savages is recorded in all accounts of their manners. It is well known that the keenest scented hounds have the largest nostrils.

The comparative quickness of hearing in dogs probably depends, in great measure, on the form of the external ear. Shakspeare has described the matchless hounds of Theseus as dogs whose

“ Heads are hung
With ears that sweep away the morning dew.”

* See “ *Histoire des Mœurs et de l’Instinct des Animaux*, par J. J. Virey.” Paris, 1822.

This was one of the characteristics of the *old English* hound, whose hearing was very perfect, and whose sense of smell, also, was the most exquisite that can be imagined. M. Cabanis says, the ears of hounds, and other animals designed to hear *low* sounds, (low, as opposed to loud,) are either pendulous or very moveable, to compensate for their difficulty in moving the head.

We have mentioned that these exquisite senses are increased and called into action by discipline. The fox-hound will distinguish the scent of the fox he is pursuing from that of another fox who crosses his path; the spaniel and terrier will track their masters, by their scent, through a crowded city; the watch-dog barks when no one else hears a foot fall. Why is this? These dogs have been accustomed, partly by nature, and partly by education, to regulate their senses by the exercise of attention; to condense their faculties for the service in which they are engaged; to direct their capabilities to the one object which is necessary to be attained. They are generally successful; and their success offers a valuable example to our higher faculties.

In the Tower Menagerie, there is a leash of African blood-hounds belonging to that variety of dog which Linnæus has denominated *sagax*, as indicating a greater intelligence than dogs in general possess. It is impossible to judge of the properties of these individual animals, in the unnatural position in which they are placed. They were brought from Africa by Major Denham, the celebrated traveller; and that enterprising officer had often employed them in hunting the gazelle, in which chase their exquisite scent, and their extraordinary speed, were displayed to great advantage. They would frequently quit the line of scent, for the purpose of taking a direct instead of a circuitous course, (sportsmen call this cutting off a double,) recovering the scent again with wonderful facility.

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This, probably, could only be with the object in view. A dog which loiters by the way, in travelling with his master, will, in the same manner, often make a short cut to overtake him. Dogs are excellent judges of distance : they seldom fail in attempting to leap a ditch or a gate. We have seen a greyhound, in full chase of a hare which ran through a ditch, throw himself over the hedge to be ready for her as she passed out ; and the manœuvre rarely failed of success. This must be considered an effect of reasoning, at any rate ; although we may not go quite so far as Ray, the great English naturalist, who says that dogs judge of distances by an innate operation of trigonometry. Dr. Thomas Brown, one of the most beautiful as well as profound writers on Intellectual Philosophy, considers the existence of reasoning amongst many of the inferior animals to be as unquestionable as the instincts that mingle with it. Montaigne, the most accurate of observers, has recorded a singular instance of their faculty of judging of space:—" I am struck with admiration at the performance, which is nevertheless very common, of those dogs that lead blind beggars in the country, and in cities. I have taken notice how they have stopped at certain doors, where they are wont to receive alms ; how they have avoided the encounter of coaches and carts, even in cases where they have had sufficient room to pass ; and I have seen them, by the trench of a walled town, forsake a plain and even path to take a worse, only to keep their masters further from the ditch. How could a man have made this dog understand that it was his office to look to his master's safety only, and despise his own convenience to serve him ? And how did he acquire the knowledge, except by a process of reasoning, when the path was broad enough for himself, that it was not so for the blind man ?"*

* Montaigne's *Essays*, translated by Cotton.

this dog understand ? Here is the real difficulty. Habit certainly does a great deal—but then there must be a beginning of such experiments.

In a work by Jean Faber (*Exposition des Animaux de la Nouvelle Espagne de Hernandez*) there is a very interesting account of the blind beggars of Rome, who are led by their dogs from church to church in that city, and even to places outside of the city walls, such as the Basilica of St. Paul, on the road to Ostia. How does the animal so thoroughly comprehend where his master wishes to go ? Dr. Gall says that dogs “learn to understand not merely separate words or articulate sounds, but whole sentences expressing many ideas.” Dr. Elliotson, the learned translator of Blumenbach’s *Physiology*, quotes the following passage from Gall’s *Treatise*, “*Sur les Fonctions du Cerveau*,” without expressing any doubt of the circumstance :—“I have often spoken intentionally of objects which might interest my dog, taking care not to mention his name, or make any intonation or gesture which might awaken his attention. He, however, showed no less pleasure or sorrow, as it might be ; and, indeed, manifested by his behaviour that he had perfectly understood the conversation which concerned him. I had taken a bitch from Vienna to Paris ;—in a very short time she comprehended French as well as German, of which I satisfied myself by repeating before her whole sentences in both languages.” We have heard an instance of this quickness in the comprehension of language which is very remarkable. A mongrel, between the shepherd’s dog and terrier, a great favourite in a farm-house, was standing by while his mistress was washing some of her children. Upon asking a boy, whom she had just dressed, to bring his sister’s clothes from the next room, he pouted and hesitated. “Oh, then,” said the mother, “Mungo

will fetch them." She said this by way of reproach to the boy, for Mungo had not been accustomed to fetch and carry. But Mungo was intelligent and obedient ; and, without further command, he brought the child's frock to his astonished mistress. This was an effort of imagination in Mungo, which dogs certainly possess in a considerable degree. He had often observed, doubtless, the business of dressing the children ;—and the instant he was appealed to, he imagined what his mistress wanted. Every one knows the anxiety which dogs feel to go out with their masters, if they have been accustomed so to do. A dog will often anticipate the journey of his owner ; and, guessing the road he means to take, steal away to a considerable distance on that road to avoid being detained at home. We have repeatedly seen this circumstance. It is distinctly an effort of the imagination, if, indeed, it be not an inference of reasoning.

The shying of horses has been considered by some as a peculiar defect of sight ;—at any rate it is an effect of some false terror. Dogs fill their imagination with vain fears, in the same manner. We have been informed by an intelligent sportsman, that returning home in the dusk with his pointer, the dog all at once skulked behind him, and refused to advance, in spite of his master's threats. Upon looking towards the horizon before him, the sportsman descried what he at first took for a tall man, with a broad hat, extended arms, and a body as thin as a lath. This object, which produced the dog's alarm, was a gigantic thistle, which the gray of the twilight had magnified into fearful dimensions. The vulgar once believed that dogs and horses could see spirits, by their often starting without any apparent cause. Such instances as this of the thistle might have given rise to the superstition.

Linnæus has made it a characteristic of dogs that "they bark at beggars :"—but beggars are ragged,

and sometimes have that look of wildness which squalid poverty produces ; and then the imagination of the dog sees, in the poor mendicant, a robber of his master's house, or one who will be cruel to himself—and he expresses his own fears by a bark. A dog is thus valuable for watching property, in proportion to the ease with which he is alarmed. One of the greatest terrors of a domesticated dog is a naked man, because this is an unaccustomed object. The sense of fear is said to be so great in this situation, that the fiercest dog will not even bark. A tan-yard at Kilmarnock, in Ayrshire, was a few years ago extensively robbed by a thief, who took this method to overcome the courage of a powerful Newfoundland dog, who had long protected a considerable property. The terror which the dog felt at the naked thief was altogether imaginary—for the naked man was less capable of resisting the attack of the dog, than if he had been clothed. But then the dog had no support in his experience. His memory of the past did not come to the aid of that faculty which saw an unknown danger in the future.

The faculties of quadrupeds, like those of men, are of course mixed in their operation. The dog, who watches by his master's grave, and is not tempted away by the caresses of the living, employs both his memory and his imagination in this act of affection. In the year 1827 there was a dog constantly to be seen in St. Bride's Churchyard, Fleet-street, which for two years had refused to leave the place where his master was buried. He did not appear miserable ;—he evidently recollected their old companionship, and he imagined that their friendship would again be renewed. The inhabitants of the houses round the church daily fed the poor creature, and the sexton built him a little kennel. But he would never quit the spot ;—and there he died.

The instances of devoted affection of dogs to their masters are too numerous, and too well known, to require that they should be here repeated. It is a fortunate circumstance connected with this natural attachment of dogs to mankind, that in general they are only considered valuable during their lives ; and their value consists in the qualities which have a tendency to make man gentle and affectionate towards them in return. But this reciprocal friendship is not universal. The natives on the coast of Guinea, and those of the South Sea Islands, eat dogs' flesh ;—there are said to be dog-butchers in China ;—and in Finmark, and other parts of Lapland, dogs are bred, fattened, and slaughtered for their hides.*

The faculty by which animals can communicate their ideas to each other is very striking ; in dogs it is particularly remarkable. There are many curious anecdotes recorded, illustrative of this faculty ; but we prefer giving one from our own knowledge. At Horton, in Buckinghamshire, (a village where Milton passed some of his early days,) about the year 1818, a gentleman from London took possession of a house, the former tenant of which had moved to a farm about half a mile off. The new inmate brought with him a large French poodle, to take the duty of watchman, in the place of a fine Newfoundland dog, which went away with his master : but a puppy of the same breed was left behind ; and he was incessantly persecuted by the poodle. As the puppy grew up, the persecution still continued. At length, he was one day missing for some hours ; but he did not come back alone : he returned with his old friend, the large house-dog, to whom he had made a communication ; and in an instant the two fell upon the unhappy poodle, and killed him before he could be rescued from their fury. In this case, the injuries of the young dog must have been made known to his friend ; a

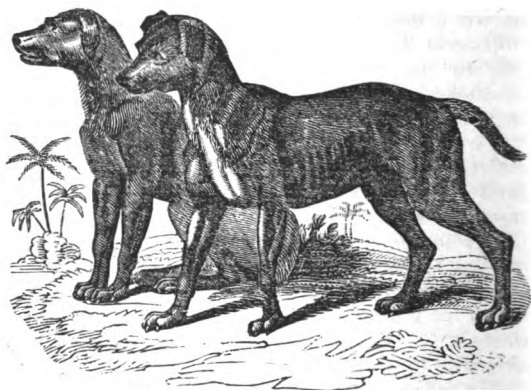
* De Broke's Travels in Lapland.

plan of revenge concerted ; and the determination to carry that plan into effect formed and executed with equal promptitude.

The following story, which illustrates, even in a more singular manner, the communication of ideas between dogs, was told us by a clergyman, as an authentic anecdote :—A surgeon of Leeds, walking in the suburbs of that town, found a little spaniel who had been lamed. He carried the poor animal home, bandaged up his leg, and, after two or three days, turned him out. The dog returned to the surgeon's house every morning, till his leg was perfectly well. At the end of several months, the spaniel again presented himself, in company with another dog, who had also been lamed ; and he intimated, as well as piteous and intelligent looks could intimate, that he desired the same kind assistance to be rendered to his friend, as had been bestowed upon himself. A similar circumstance is stated to have occurred to Moraut, a celebrated French surgeon.

But we are forgetting the African blood-hounds of the Tower Menagerie ; and, in truth, we had no pleasurable recollections of these poor animals. The contrast of their former with their present situation is very painful. From hunting the herds of antelopes over the wide plains of Africa, they have been taken to a close den, where they are evidently restless and miserable. The mastiff, chained up in a kennel, feels that he is useful, and he is therefore happy. Dogs have an instinctive desire of employment ; and they are never so delighted, as when man is cheering them on to some exertion : their reward is the approbation of their masters. But there are these fine creatures shut up in a cage, only to be looked at ; and they feel their captivity and degradation. As is common under similar circumstances, they have no desire to perpetuate their race ; and the female has become very surly and spiteful. They are

exceedingly beautiful dogs ; and it is supposed that the breed, if crossed with our pointers, would greatly improve the variety.



African Blood-hounds.

What is generally called the docility of dogs—the faculty of being taught tricks contrary to their natures, is curious, but far from pleasing : the perfection is generally attained by cruelty. It is more agreeable to witness a natural docility ;—such as that of our own shepherd's dog, who learns to distinguish every sheep of a large flock ; and who will drive them through the crowded streets, with a foresight perfectly wonderful. But our shepherd's dog acts under a rough, and often brutal, drover ; though, perhaps, this brutality naturally arises out of the impediments presented to a kind discharge of his duty, by passengers equally intent upon making their way. The drover and the shepherd are very different persons ; and in gentleness, the drover's dog and the real shepherd's dog are equally unlike. Some of the finest dogs in the world are those which watch the Merino sheep

upon the Spanish mountains. They wear large collars with spikes, to protect them from the attacks of the wolves ; and they conduct their flocks with a gentleness which is only equalled by their courage. When they return to the folds, the dogs bring up the stragglers without violence ; and the man walks at their head, in the true pastoral style, so beautifully described in the Psalms : " The Lord is my shepherd ; I shall not want. He maketh me to lie down in green pastures ; he *leadeth* me beside the still waters."

The dog, as well as most other animals, indicates his different feelings by different tones of his voice ; and thus the shepherd's dog has a command over his flock without using positive violence. Their tones are so marked that they are recognised, as expressive of anger or fear, by other animals. The horse knows from the bark of a dog when he may expect an attack upon his heels. The author of *Waverley* alludes to this dread which horses have of angry dogs, when he quotes the ridiculous story of a French tourist in Scotland, that the State maintained in each village a relay of curs, called colleys, whose duty it was to chase the post-horses (too starved and exhausted to move without such a stimulus) from one hamlet to another, till the annoyance thus produced drove the wretched animals to the end of their stage.

The practice of teaching dogs tricks is as old as the Romans. Montaigne has quoted from Plutarch the following account of a *wonderful* dog of antiquity : " Plutarch says he saw a dog at Rome, at the theatre of Marcellus, which performed most extraordinary feats, taking his part in a farce which was played before the Emperor Vespasian. Amongst other things, he counterfeited himself dead, after having feigned to eat a certain drug, by swallowing a piece of bread. At first, he began to tremble and stagger, as if he were astonished ; and, at length,

stretching himself out stiff, as if he had been dead, he suffered himself to be drawn and dragged from place to place, as it was his part to do ; but afterwards, when he knew it to be time, he began first gently to stir, as if newly awaked out of some profound sleep, and lifting up his head, looked about him, after such a manner as astonished all the spectators.” There was even a more curious exhibition of this description at Paris, in 1817. The English were accustomed to employ this docility to some advantage in their domestic arrangements ; but the race of Turnspits, a long-backed, short-legged dog, has ceased to exist, except as an occasional curiosity. Machinery has here superseded animal power, as in many other cases. Asses are seldom, now, put to walk in a wheel to raise water, as we have seen at Carisbrook Castle, in the Isle of Wight. The dancing dogs of the showman, too, are almost extinct ; though, now and then, his pipe and tabor are heard in some obscure street of London ; and boys gather around to wonder at the sight of dogs turning a spinning-wheel, and dancing a cotillion ; and they think of the story of “ Mother Hubbard ” as a profound truth in natural history.



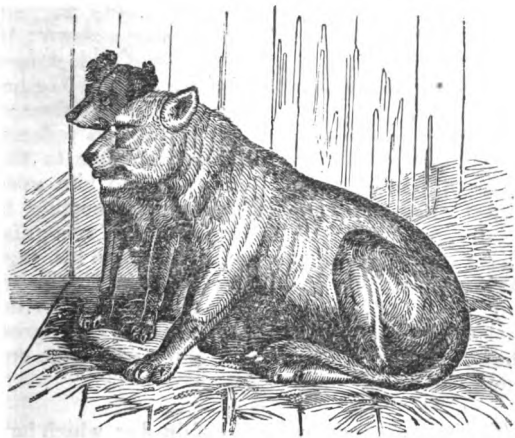
We have alluded in Chapter II. to those exhibitions of remarkable attachment between animals of opposite natures, which are sometimes so interesting in menageries. These attachments are more frequent with dogs than with other animals—probably because they are more capable of attachment. The friendship between dogs and horses is too common to attract notice ; but every now and then we hear of an attachment where we might have expected an antipathy. Dr. Fleming, in his interesting book “*The Philosophy of Zoology*,” quotes from Montague’s supplement to his *Ornithological Dictionary*, the following account of a singular friendship which subsisted between a China goose, and a pointer, who had killed the gander. “Ponto (for that was the dog’s name) was most severely punished for the misdemeanour, and had the dead bird tied to his neck. The solitary goose became extremely distressed for the loss of her partner and only companion ; and, probably, having been attracted to the dog’s kennel by the sight of her dead mate, she seemed determined to persecute Ponto by her constant attendance and continual vociferations ; but after a little time a strict amity and friendship subsisted between these incongruous animals. They fed out of the same trough, lived under the same roof, and in the same straw-bed kept each other warm ; and when the dog was taken to the field, the inharmonious lamentations of the goose for the absence of her friend were incessant.”

We have one anecdote of a similar nature to add, from our own observation. We recorded the circumstance as follows, at the time when it was made known to us in 1823. We were lately visiting in a house where a very pleasing and singular portrait attracted our observation : it was that of a young lady represented with a partridge perched upon her

shoulder, and a dog with his feet on her arm. We recognised it as a representation of the lady of the house, but were at a loss to account for the odd association of her companions. She observed our surprise, and at once gave the history of the bird and the spaniel. They were both, some years back, domesticated in her family. The dog was an old parlour favourite who went by the name of Tom. The partridge was more recently introduced from France, and answered to the equally familiar name of Bill. It was rather a dangerous experiment to place them together, for Tom was a lively and spirited creature, very apt to torment the cats, and to bark at any object which roused his instinct. But the experiment was tried ; and Bill, being very tame, did not feel much alarm at his natural enemy. They were, of course, shy at first, but this shyness gradually wore off : the bird became less timid, and the dog less bold. The most perfect friendship was at length established between them. When the hour of dinner arrived, the partridge invariably flew on his mistress's shoulder, calling with that shrill note which is so well known to sportsmen ; and the spaniel leapt about with equal ardour. One dish of bread and milk was placed on the floor, out of which the spaniel and bird fed together ; and after their social meal, the dog would retire to a corner to sleep, while the partridge would nestle between his legs, and never stir till his favourite awoke. Whenever the dog accompanied his mistress out, the bird displayed the utmost disquietude till his return ; and once, when the partridge was shut up by accident during a whole day, the dog searched about the house with a mournful cry which indicated the strength of his affection. The friendship of Tom and Bill was at length fatally terminated. The beautiful little dog was stolen ; and the bird from that time refused all

food, and died on the seventh day, a victim to his grief.

The stories of attachment between lions and dogs are well authenticated ; and in several instances the stronger animal has afforded a protection to his trembling victim, which has ripened into friendship. In a well-regulated travelling menagerie, belonging to a person named Atkins, we saw, in the autumn of 1828, a spaniel-bitch, affording sustenance to a young tiger who was sick, and not expected to live, and whom she evidently tended with affectionate solicitude. The following cut is a representation of this singular pair.



We cannot quit the subject of dogs without advert-
ing to that lamentable circumstance, their occasional
madness. This disease is not common to dogs in all
climates ; according to Mr. Barrow, canine madness

is unknown in South Africa. Other temporary diseases are oftentimes mistaken for this fearful malady; and we, therefore, subjoin the symptoms of hydrophobia, as described by MM. Chaussier and Orfila, who have written a scientific work on this disorder :—

“ A dog at the commencement of madness is sick, languishing, and more dull than usual. He seeks obscurity, remains in a corner, does not bark, but growls continually at strangers, and, without any apparent cause, refuses to eat or drink. His gait is unsteady, nearly resembling that of a man almost asleep. At the end of three or four days, he abandons his dwelling, roving continually in every direction : he walks or runs as if tipsy, and frequently falls. His hair is bristled up ; his eyes haggard, fixed, and sparkling ; his head hangs down ; his mouth is open and full of frothy slaver ; his tongue hangs out ; and his tail between his legs. He has, for the most part, but *not always*, a horror of water, the sight of which seems, generally, to redouble his sufferings. He experiences from time to time transports of fury, and endeavours to bite every object which presents itself, not even excepting his master, whom indeed he begins not to recognise. Light and lively colours greatly increase his rage. At the end of thirty or thirty-six hours he dies in convulsions.” After various remedies for this terrible malady have been tried in vain, it seems now agreed that cutting or burning out the bitten part is the only one to be relied on.

The very extensive varieties of the dog, which have been produced by domestication and other causes, have led naturalists into great differences of opinion, as to the original stock from which these varieties have sprung. Wild dogs, as they are at present found, are, in most cases, dogs without masters ;

living in a miserable condition, away from human society, and easily won back to its subjection and its comforts : these, therefore, do not advance our inquiries as to the original type of the species in a state of nature. | Some think the dog is a jackal, some a wolf. In the character of erect ears, many of our domestic dogs nearly resemble the half-reclaimed varieties, such as the Esquimaux ; and again, others, in the shape of the head, approach more nearly to the Australasian dog, which has been lately considered as retaining most of the probable distinctive characters of the wild and original stock. M. Frederic Cuvier has directed much attention to this subject ; and he has constructed a list of dogs, arranged, as he conceives, in the order of their approach to the parent stock, as far as that can be determined by the shape of the head, and the length of the jaws and muzzle. We subjoin this arrangement, which varies greatly from that of Buffon, and certainly appears much more natural and reasonable.

All the varieties of the dog, according to M. F. Cuvier, may be divided into three groups, viz. :—

I. MATINS.

II. SPANIELS.

III. DOGUES.

I. MATINS.—The anatomical character of this group is,—the head more or less elongated ; the parietal bones insensibly approaching each other ; and the condyles of the lower jaw placed in a horizontal line with the upper cheek teeth.

Var. A.—Dog of New Holland.—*Canis fam. Australasiae*, DESMAREST ; *Dingo*, SHAW.

Var. B.—French Matin.—*Canis fam. lamarius*, LINNÆUS ; *Matin*, BUFFON.

(According to Buffon, this dog, a native of temperate climates, becomes the Danish dog, when carried to the north, and the greyhound, when under the influence of a southern climate.)

Var. C.—Danish Dog.—*Can. fam. danicus*, DESMAREST ; *Grand Danois*, BUFFON.

Var. D.—Greyhound.—*Canis graius*, LINNÆUS ; *Lévrier*, BUFFON.

This variety includes the following *sub-varieties* :—

- a. Irish Greyhound.
- b. Scotch Greyhound.
- c. Russian Greyhound.
- d. Italian Greyhound.
- e. Turkish Greyhound.

(The Italian and the Turkish greyhounds are alike in the great timidity of their dispositions, and their constant trembling, proceeding, probably, from excessive sensibility. The common greyhound is feelingly alive to caresses ; and the motions of his heart, when noticed, are most violent and irregular.)

The *Albanian* dog, a very celebrated species described by many historians, belongs to this group.

II. SPANIELS.—The head very moderately elongated ; the parietal bones do not approach each other above the temples, but diverge and swell out so as to enlarge the forehead and the cerebral cavity. This group includes the most useful and intelligent of dogs.

Var. E.—Spaniel.—*Canis fam. extrarius*, LINNÆUS.

(The name of this race is derived from its original country, Spain ;—thence *Epagneul*, French ; *Spaniel*, English.)

Sub-varieties :—

- a. The smaller Spaniel. -
- b. King Charles's Spaniel.—*Canis brevipilis*, LINNÆUS.

c. Le Pyrame, BUFFON.—(There is no English name for this kind.)

d. The Maltese Dog.—*Bichon*, BUFFON.

e. The Lion Dog.—*Canis leoninus*, LINN.

f. The Calabrian Dog.

Var. F.—The Water Spaniel.—*Canis aquaticus*, LINNÆUS ; *Chien barbet*, BUFFON.

Sub-varieties :—

a. Small Water Spaniel.—*Petit barbet*, BUFFON.

(According to Buffon and Daubenton, this is considered the offspring of the great water dog and the little spaniel.)

b. Chien Griffon.—(This is a sub-variety between the water spaniel and shepherd's dog.)

Var. G.—The Hound.—*Chien courant*, BUFFON ; *Canis sagax*, LINNÆUS.

(This is essentially the same as the blood-hound. The fox-hound is a smaller variety, and the harrier a still smaller. The beagle is a particular breed of the harrier. The "Talbot" is an old English name for all the varieties of the hound.)

Var. H.—The Pointer.—*Canis avicularius*, LINNÆUS.

Sub-varieties :—

a. Dalmatian Pointer.—*Braque de Bengal*, BUFFON.

Var. I.—Turnspit.—*Canis fam. vertagus*, LINNÆUS.

(There are two sub-varieties, one with the fore legs straight, the other crooked.)

Var. K.—Shepherd's Dog.—*Canis fam. domesticus*, LINNÆUS.

Var. L.—Wolf Dog.—*Canis pomeranus*, LINNÆUS.

Var. M.—Siberian Dog.—*Canis sibiricus*, LINNÆUS.

Var. N.—Esquimaux Dog.—*Canis fam. borealis*, DESMAREST.

Var. O.—The Alco.

In group II. ought to be included—

The Alpine Spaniel.
 The Newfoundland Dog.
 The Setter.
 The Terrier.

These are omitted by M. F. Cuvier ; but the two first are alluded to in a note by M. Desmarest in his "Mammalogie." The French call the various mongrel breeds *chiens de rue*—dogs of the street.

III. DOGUES.—The muzzle more or less shortened; the skull high ; the frontal sinuses considerable ; the condyle of the lower jaw extending above the line of the upper cheek teeth. The cranium is smaller in this group than in the two previous, owing to the formation of the head.

Var. P.—Bull Dog.—*Canis fam. molossus*, LINNÆUS.

Sub-variety.—Dog of Thibet.

Var. Q.—The Mastiff.—*Canis fam. anglicus*, LINNÆUS.

Var. R.—The Pug Dog.—*Le doguin*, BUFFON.

Var. S.—The Iceland Dog.—*Canis fam. islandicus*, LINNÆUS.

Var. T.—Little Danish Dog.—*Canis fam. variegatus*, LINNÆUS.

(When spotted with black on a white ground it is called the Harlequin Dog. Notwithstanding the name, there is no resemblance of form between this and the Danish Dog, var. C.)

Var. U.—Bastard Pug.—*Chien roquet*, BUFFON.

Var. V.—*Canis fam. britannicus*, DESMAREST.—A variety between the little Danish dog and the Pyrame.

Var. X.—Artois Dog, an extinct variety of the *Canis fam. fricator* of LINNÆUS.

Var. Y.—Dog of Andalusia, sometimes called the Dog of Cayenne.

Var. Z.—Barbary Dog.—*Chien turc*, BUFFON; *Canis - fam. ægyptius*, LINNÆUS.

(There are two varieties ; one quite naked, the other with a mane.)

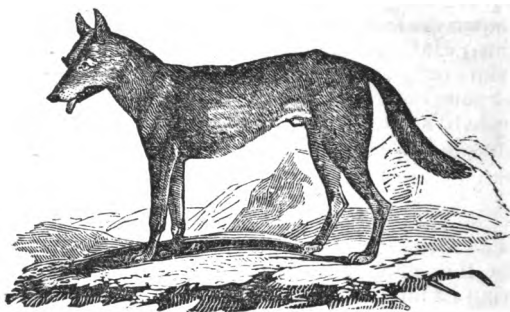
Dr. Caius, a naturalist of the seventeenth century, wrote a Latin Treatise on British Dogs, of which he mentions the following varieties:—Terrare (from terrarius,) Harier, Bludhunde, Gasehunde, Grehunde, Leviner or Lyemmer, Tumbler, Spainel, Setter, Water-Spainel or Fynder, Spainel-gentle or Comforter, Shepherd's Dog, Mastive or Bande-dog, Wappe, Turnspit, Dancer.

The Domestic Dog is scientifically distinguished from the other varieties of the species *Canis*, by having its tail curved upwards. Whenever there is white on any part of the tail of the Domestic Dog, the *tip* is invariably white.

The dog, whelped with his eyes closed, opens them on the tenth or twelfth day. His teeth begin to change in the fourth month. His growth terminates at two years ; and he is old at five. His life rarely exceeds twenty years. The female goes with young sixty-three days.

CHAPTER IV.

THE WOLF, THE JACKAL, AND THE FOX.



The Wolf, PENNANT; Canis lupus, LINNÆUS.

IN the garden of the Zoological Society there are three young wolves, a pair of which came from Normandy. The height of the specimen from which the above representation was taken was twenty-six inches, in September, 1828. These animals are here confined in a manner which enables the observer to judge better of their habits than in the ordinary dens of the menageries. They have a roomy kennel to feed and sleep in; and a sort of outer cage, made of strong bars of iron rising from the ground, and forming an arch, sufficiently large to enable them to chase each other about with considerable freedom: their play is, however, extremely rough; and they often bite with great violence. Upon the whole, they appear good-tempered. We observed

a gentleman, somewhat imprudently, thrust his hand into the cage, upon which they all licked it, fawning like dogs.

The essential character of the common wolf consists in,—a straight tail ; the hide of a grayish yellow, with a black oblique stripe on the fore-legs of those which are full grown ; the eyes oblique. The average height of the wolf is about two feet, six inches before, and two feet, four inches behind ; and the length of the body, from the tip of the muzzle to the beginning of the tail, three feet, eight inches. The cubs of the wolf are born with their eyes shut : the female goes with young sixty-three days, and has eight or nine at a litter ; in these respects exactly resembling the dog.* The average duration of their life is from fifteen to twenty years.

The gentleness of wolves in confinement seldom continues after they are full grown : they generally appear to acquire a fear instead of a love of man, which manifests itself in a morose and vindictive impatience. The cowardly ferocity of their natures is with difficulty restrained by discipline : they are not to be trusted. And yet there are instances of wolves having been domesticated to such an extent, as to exhibit the greatest attachment to man—as great as can be shewn by a dog. M. F. Cuvier gives a very interesting account of a tame wolf, which had all the obedience towards, and affection for, his master, that the most sagacious and gentle of domestic dogs could possibly evince. He was brought up in the same manner as a puppy, and continued with his original owner till he was full grown. He was then presented to the Menagerie at Paris. For many weeks he was

* The period of gestation in the wolf is inaccurately stated in Goldsmith's "Animated Nature ;" and from the *supposed* difference in this particular between the dog and the wolf, an inference is drawn, that they are essentially a different species.

quite disconsolate at the separation from his master, who had been obliged to travel ; he would scarcely take any food ; and was indifferent to his keepers. At length he became attached to those about him, and he seemed to have forgotten his old affections. His master returned, after an absence of eighteen months : the wolf heard his voice amidst the crowd in the gardens of the Menagerie, and, being set at liberty, displayed the most violent joy. Again was he separated from his friend ; and again was his grief as extreme as on the first occasion. After three years' absence, his master once more returned. It was evening, and the wolf's den was shut up from any external observation ; yet the instant the man's voice was heard, the faithful animal set up the most anxious cries ; and the door of his cage being opened, he rushed towards his friend—leaped upon his shoulders—licked his face—and threatened to bite his keepers, when they attempted to separate them. When the man left him, he fell sick, and refused all food ; and from the time of his recovery, which was long very doubtful, it was always dangerous for a stranger to approach him. He appeared as if he scorned any new friendships.

This is a very remarkable, and, as far as we know, a solitary instance of the wolf possessing the generous, constant, unshaken attachment of the dog to any individual of the human species. And yet the paucity of these instances may be attributed to our imperfect knowledge of the history of the domestication of the dog-tribe. In the individual animal described by M. F. Cuvier, the progress was very clear, from a state of savage fierceness to a state of docility and extraordinary sensibility. This wolf was taken young ; brought up with human beings ; cherished by one in particular ; never suffered to have his ferocity excited by a want of food ; and supplied with every neces-

sary, as well as caressed, by the person with whom he had especially become familiar. It is very rarely that such an experiment can be tried ; for the inhabitants of Europe, for the last thousand years at least, have been labouring, with unceasing anxiety, to extirpate the whole race of wolves. The Esquimaux dogs, which we have described in Chapter III., are probably wolves in a state of domestication ; but neither the date of their domestication, nor the manner in which it has been effected, could be satisfactorily determined, even if the fact of the identity of the species were completely established. That there is an essential difference in the characters, though little or none in the physical structures, of wolves, properly so called, and of dogs in the wildest state, (that is, in the state in which they most nearly resemble wolves,) is beyond a doubt. They are natural foes : the Esquimaux dogs set up a fearful howl at the approach of a wolf to their huts ; and yet, in their outward appearance, these animals are exceedingly alike. Captain Parry, in the Journal of his Second Voyage, says, "a flock of thirteen wolves, the first yet seen, crossed the ice in the bay, from the direction of the huts, and passed near the ships. These animals, as we afterwards learned, had accompanied, or closely followed, the Esquimaux on their journey to the island the preceding day ; and they proved to us the most troublesome part of their suite. They so much resemble the Esquimaux dogs, that, had it not been for some doubt amongst the officers who had seen them, whether they were so or not, and the consequent fear of doing these poor people an irreparable injury, we might have killed most of them the same evening, for they came boldly to look for food within a few yards of the *Fury*, and remained there for sometime." Again he says, in his journal five days after, "these animals were so hungry and fearless, as to take away

some of the *Esquimaux* dogs in a snow-house near the *Hecla's* stern, though the men were at the time within a few yards of them." Thus we see that there is an essential difference of character between the *Esquimaux* dog and wolf, which has rendered the one the natural enemy of the other ; although their physical resemblance be so close, as to present no essential variation to an ordinary observer. This difference of character is probably to be found, in a great degree, in the effect of hereditary habit. We have other instances of the disposition which wolves have to make the dog their prey. Captain Parry, in a subsequent passage of the same journal, mentions that a Newfoundland dog belonging to one of the *Discovery* ships, being enticed to play with some wolves, who were prowling upon the ice, would have been carried off by them, had not the sailors gone in a body to his rescue. In *Broke's Travels* we find the following curious circumstances recorded, as happening in the north of Sweden :—" I observed, on setting out from Sormjôle, the last post, that the peasant who drove my sledge was armed with a cutlass ; and, on enquiring the reason, was told that, the day preceding, while he was passing in his sledge the part of the forest we were then in, he had encountered a wolf, which was so daring, that it actually sprung over the hinder part of the sledge he was driving, and attempted to carry off a small dog which was sitting behind him. During my journey from Tornea to Stockholm, I heard everywhere of the ravages committed by wolves, not upon the human species or the cattle, but chiefly upon the peasants' dogs, considerable numbers of which had been devoured. I was told, that these were the favourite prey of this animal ; and that, in order to seize upon them with the greater ease, it puts itself into a crouching posture, and begins to play several antic tricks, to

attract the attention of the poor dog, which, caught by these seeming demonstrations of friendship, and fancying it to be one of his own species, from the similarity, advances towards it to join in the gambols, and is carried off by its treacherous enemy. Several peasants that I conversed with mentioned their having been eye-witnesses of this circumstance." Nor is the animosity of the dog to the wolf less than that of the wolf to the dog. Associated in packs, and encouraged by men, dogs will chase the wolf with the most daring ardour, regardless of his greater physical strength ; and, probably, without the aid of dogs, they would never have been exterminated in these kingdoms.

The wolf is peculiarly an inhabitant of Europe, and he still continues so in the more northern regions, and in those countries where dense forests are not yet cleared. They once abounded in this country ; and it is manifest that the terror which they produced was not a rare circumstance, but spread itself throughout all the land, and became a part of the habitual thoughts of the people. The month which corresponds with our January was at one period called by the Anglo-Saxons, "Wolfmonat ;" and the reason for this is thus explained by an old writer on British antiquities. "The moneth which we now call January they called 'Wolfmonat,' to wit, Wolf moneth, because people are wont always in that moneth to be more in danger to be devoured of wolves, than in any season els of the yeare ; for that, through the extremity of cold and snow, those ravenous creatures could not find of other beasts sufficient to feed upon."* The natural terror which the wolves inspired amongst the scat-

* Verstegan's "Restitution of decayed Intelligence in Antiquities concerning the most noble and renowned English Nation." Antwerp, 1605.

tered inhabitants of the half-cultivated lands of England was increased by their habitual superstitions. The same author, in his chapter "on the Antiquitie and Proprietie of the ancient English tongue," says, "*Were-wulf*: this name remaineth still known in the Teutonic, and is as much to say as man-wolf—the Greek expressing the very like in *Lycanthropos*. The *were-wolves* are certain sorcerers, who, having anointed their bodies with an ointment which they make by the instinct of the devil, and putting on a certain enchanted girdel, do not only unto the view of others seem as wolves, but to their own thinking have both the shape and nature of wolves, so long as they weare the said girdel; and they do dispose themselves as very wolves in wurring and killing, and waste of humane creatures." The Germans had a similar superstition; and, as late as 1589, a man was executed in the Netherlands under the charge of being a were-wulf. This pretended sorcerer, assuming one of the most formidable shapes of mischief, was called, in France, *loup-garou*. It is said that the wolf, when it has once tasted human flesh, gives it the preference over all other animal food; and from this cause it probably arose that, for many centuries of ignorance, when the influence of evil spirits was universally believed, and the powers of witchcraft were not doubted even by the learned, a raging wolf, devouring every thing in his way—the sheep in its fold, and the child in its cottage bed,—and even digging up newly buried bodies from their graves, should be supposed to be possessed with some demon more fearful than its own insatiate appetites. It is to the terror, also, which the wolf inspired, that we are to ascribe the fact of kings and rulers, in a barbarous age, feeling proud of bearing the name of this animal, as an attribute of courage and ferocity. Brute power was then con-

sidered the highest distinction of man ; and the sentiment was not mitigated by those refinements of modern life which conceal, but do not destroy it. We thus find, amongst our Anglo-Saxon kings, and great men, Æthelwulf, the noble wolf ; Berthwulf, the illustrious wolf ; Eadwulf, the prosperous wolf ; Ealdwulf, the old wolf.

The wolf was extirpated much earlier in England than in any other country of Europe. King Edgar, in the tenth century, according to the ancient chronicles, "tooke order for the destroying them throughout the whole realm." The Welsh paid tribute to Edgar, which he commuted for three hundred wolves' heads. Malmsbury says the tribute ceased on the fourth year, for want of wolves. It would appear from the writings of William Fitz-Stephen, the secretary of Thomas-à-Becket, that wolves did not exist in the great forest to the north of London, for he makes no mention of them in his account of it. "On the north are corn fields, pastures, and delightful meadows, intermixed with pleasant streams, on which stands many a mill, whose clack is so grateful to the ear. Beyond them an immense forest extends itself, beautified with woods and groves, and full of the lairs and coverts of beasts and game,—stag, bucks, boars, and wild bulls."* Wolves were found sufficiently numerous at a later period again to demand the attention of the government ; for Edward I., in the thirteenth century, issued his edict to "Maister Peter Corbet" to superintend their destruction. After this period we hear nothing of wolves in English history. Hollingshed mentions that, in 1577, wolves were very destructive to the flocks in Scotland ; and it is said that the last of this

* "Descriptio nobilissimæ Civitatis Landoniæ ;" a prologue of William Fitz-Stephen to his Life of Thomas-à-Becket, translated by Dr. Pegge.

ferocious race perished in Lochaber, by the hand of Sir Ewen Cameron, about a century afterwards. They were exterminated in Ireland at the beginning of the last century.

In the southern and temperate countries of Europe wolves are now rarely found. In severe winters they sometimes make their appearance in France and Germany; several were seen in the forests near Boulogne, in 1818. In Spain, the dogs who watch the flocks wear spiked collars, as we have before mentioned, to protect them from the occasional incursions of their enemy. We must refer to the accounts of travellers in the northern parts of Europe and of America, for any notice of the appearance of these animals in considerable numbers. Wolves are, in those northern regions, very formidable creatures, sometimes measuring six feet from the muzzle to the end of the tail.*

Their prevailing colour is light, with a silvery, black stripe, extending from the upper part of the neck along the back. In the Zoological Appendix, by Mr. Sabine, to Captain Franklin's "Narrative of a Journey to the Shores of the Polar Sea," mention is made of a white wolf, whose length was four feet two inches; length of tail, nineteen inches; and height, two feet ten inches. Mr. Sabine considers it probable, that the loss of colour in the white wolves, in the vicinity of the Arctic Seas, is occasioned by the severity of the winter season; though the change does not occur in all cases. We have mentioned the changes of colour in many of the polar animals in Chap. III., p. 51. Desmarest, though he admits this change, notices the white wolf as a variety belonging to the description of animals called *Albinoes*.

The peculiar whiteness of the hair or feathers to which albinos are subject, and which occurs not only

* Broke's Travels.

in quadrupeds and birds, but in the human race, is occasioned by a defect in the colouring matter of these coverings of the skin, and is always connected with a defect in sight, which arises from the deficiency in the eye of what is called the mucous pigment. Blumenbach thinks that this deficiency is hereditary in some of the mammalia, so as to form a constant breed of white animals, as in the rabbit, mouse, and horse ; and that, in the same way, the ferret, whose white skin and red *glassy* eyes are well known, is descended from the polecat.* The subject of albinos is intimately connected with some curious facts which have been recently investigated ; and which completely prove the intimate connection between, or rather identity of, that substance which gives colour to the skin and hair, and that which regulates the ability of the animal to endure a greater or less degree of light.

From a series of experiments instituted to ascertain the power of the sun's rays, it has been established, by Sir Everard Home, that although the absolute heat, in consequence of the absorption of the rays, is greater from a black surface, yet the power of the rays to scorch the skin is thus destroyed—according to Sir Humphry Davy, by being converted into sensible heat by the absorption. It is thus that the negro has a provision for the defence of his skin, while living within the tropics ; and in the same manner, his eye, which is exposed to strong light, has the mucous pigment darker than that of the European.† In all quadrupeds which look upwards, as the monkey ; in birds exposed to the sun's rays ; and in fishes which lie upon the surface of the ocean, this pigment is dark. In ruminating animals, which look

* Blumenbach's Comparative Anatomy, translated by Lawrence and Coulson.

† Home's Lectures on Comparative Anatomy, vol. iii.

downwards, and in nocturnal animals, such as the cat, it is light ; in the owl, it is entirely absent. In the Supplement recently published to his Lectures on Comparative Anatomy, Sir Everard Home has collected some further facts on this interesting subject. He says that the "*rete mucosum*," a kind of pigment which lines the cuticle upon the surface of the body, and constitutes the tubular cavity that forms hair, is precisely the same substance as that upon which the retina of the eye is spread (which we have called the mucous pigment ;) and thus, being acted upon by the same circumstances, when the hair becomes gray, the person can only see with a weak light. Baron Larrey mentioned to Sir Everard Home the case of a man who had been confined at Brest thirty-three years, in a subterraneous prison. During the day, he was completely blind, and only saw objects in the dark. His hair was absolutely blanched ; and when it first became white, the pigment of his eyes had undergone the same change. With regard to the subject which led us to these curious facts—the white animals of the most northern climates—Sir Everard Home unhesitatingly says, that the shedding of the hair and feathers in the Arctic regions, during the six months in which they are not visited by the sun, *is accompanied by the absence of the "nigrum pigmentum,"* (the black pigment,) by which the animals and birds are fitted to see with the weak light afforded them.* With these facts before us, it may reasonably be believed that many of the white animals of the Arctic regions are, during a portion of the year, when the cold is intense and the days are dark, what are called albinos—that is, that with the change of the colour of their hair, the mucous pigment of the eye also changes colour ; or, in other words, that the black pigment is absent when the hair periodically becomes

* Supplement to Lectures, vol. v., p. 282. 1828.

white We have already seen how this whiteness of the fur enables the animal to bear the diminished temperature, without such a diminution of the warmth of his body as would deprive him of his physical powers; and upon the same beautiful principle of arrangement by an all-wise Providence, which so nicely adjusts the senses and faculties of animals to the situations in which they are placed, the deficiency of the black pigment of the eye enables some quadrupeds to see distinctly in the faint light of the long Arctic winter. Upon this principle, M. Desmarest's description of the white wolf, "an animal affected with the albino disease," is an incorrect one. He is an animal the colour of whose fur, as well as the pigment of whose eye, undergoes a change to fit him for the very extraordinary changes of heat and light he is exposed to; and which change of the fur and the eye prevents him utterly perishing, during that incapacity to procure his food which extreme cold and darkness would otherwise bring upon him. It is remarkable, that these extraordinary adaptations of the body to climate are confined to the inferior animals. Man is not affected by them to any thing like the same extent; for the colour of the negro's skin is unvarying in certain latitudes, and the albinos of the human race are so from the effect of disease. We may conclude, from this circumstance, that man, in the cases of adaptation to climate, as in all other cases, is left to derive his protection against physical evils from the exercise of his own reason. The poor Esquimaux, during their intense winters, clothe themselves with thick furs, shut themselves up in a snow hut, (the warmest of coverings from the external air,) make fires, and obtain light from oil. Man, therefore, has a defence, in his superior intelligence, against the rigours of climate, even in the most exposed situations. He is left to the unaided care of

this intelligence, without that special intervention of Providence, which makes such arrangements for the preservation of the inferior animals as shall come to the aid of their instinct, and stand in the place of those comforts, which may be obtained by the higher faculties of the human race. Man, for instance, is the only animal that can produce artificial light and heat. He makes a fire in the woods, and the monkeys will warm themselves at it ; but no monkey ever yet succeeded in kindling a fire himself. As man advances in civilization, these broad distinctions may be overlooked, in the elaborate contrivances by which he heaps up every comfort and luxury around him,—by manufactures and commerce ensuring the possession of them, in various degrees, to all of the human race. But the ability to construct a steam-engine, and the knowledge which shews how to kindle the fuel which sets that machine in motion, are equally results of the superior intellect of man, as distinguished from the faculties of the creatures beneath him. “Consider the lilies of the field, how they grow ; they toil not, neither do they spin.” The lilies of the field derive their exceeding beauty, without an effort, from the hand of the God of Nature ; but the same God ordains the toiling and spinning for man, to enable him to preserve that place in the creation to which he is destined—the head of all beings which inhabit this earth,—by the constant and progressive exercise of his reasoning faculties, and by the employment of that knowledge which, from the accumulated experience of past generations, constitutes the power of civilization.

In the southern states of America, according to Mr. Warden, the Black Wolf is found. This is, probably, not exactly the variety which is called *Canis lycaon*, and of which the Menagerie of Paris had formerly two specimens, which were captured in the Pyrenees. A black wolf was taken in the Missouri

territory, by a party engaged in Major Long's expedition from Pittsburg to the Rocky Mountains ; and Mr. Say, who accompanied that expedition, has described it under the name of *Canis nubilus*, or *Clouded Wolf*. In the Menagerie of the Tower of London, there is, at present, a pair of wolves, taken in America, and presented by the Hudson's Bay Company, whose hair is of that mottled or clouded colour, formed of various shades of black, gray, or white, which determined Mr. Say in his choice of a name for the variety.



The Clouded Wolf ; Canis nubilus, SAY.

These animals are larger and stronger than the common wolf ; of a fierce aspect, but, in a considerable degree, without that peculiar expression—that sinister look of apprehension, united with ferocity—which usually characterises the wolf species. Their tail is shorter than that of the common wolf, and their

ears are remarkably short. These individual animals are extremely voracious ; and their natural fierceness has not been in the slightest degree changed by confinement. The head of the American wolf, generally, is larger than that of the European ; the muzzle is rounder ; and his expression has less of that character which is expressed by the common word *slinking*.

Of the habits of the wolves of America, in which part of the world there are several varieties, we have now very accurate descriptions by intelligent and daring travellers. From those narratives, we may form some tolerable idea of the pest which formerly existed in our own country, before their extirpation. During the arduous journies of Captain Franklin to the shores of the Polar Sea, he and his companions were often obliged to dispute their scanty food with the prowling wolves of those inclement regions. On one occasion, when they had captured a moose-deer, and had buried a part of the body, the wolves absolutely dug it out from their very feet, and devoured it, while the weary men were sleeping. On another occasion, when the travellers had killed a deer, they saw, by the flashes of the Aurora Borealis, eight wolves waiting around for their share of the prey ; and the intense howling of the ferocious animals, and the cracking of the ice by which they were surrounded, prevented them from sleeping even if they had dared. But the wolves were sometimes caterers for the hungry wanderers in these dreary regions. When a group of wolves and a flight of crows were discovered, the travellers knew that there was a carcase to be divided ; and they sometimes succeeded in obtaining a share of the prey, if it had been recently killed. Even the wolves have a fear of man ; and they would fly before the little band, without attempting resistance. The following anecdote is full of interest :—" Dr. Richardson, having the first watch, had gone to the summit of the hill and remained seated, contemplating

the river that washed the precipice under his feet, long after dusk had hid distant objects from his view. His thoughts were, perhaps, far distant from the surrounding scenery, when he was roused by an indistinct noise behind him ; and, on looking round, perceived that nine white wolves had ranged themselves in form of a crescent, and were advancing, apparently with the intention of driving him into the river. On his rising up, they halted ; and when he advanced, they made way for his passage down to the tents." This circumstance happened when the weather was sultry. The formation of a crescent is the mode generally adopted by a pack of wolves to prevent the escape of any animal which they chase.

The following passage, from the same interesting work, shews the extreme cunning of the wolves in the pursuit of a creature of superior speed :—" So much snow had fallen on the night of the 24th, that the track we intended to follow was completely covered ; and our march to-day was very fatiguing. We passed the remains of two red deer, lying at the bases of perpendicular cliffs, from the summits of which they had probably been forced by the wolves. These voracious animals, who are inferior in speed to the moose, or red deer, are said frequently to have recourse to this expedient, in places where extensive plains are bounded by precipitous cliffs. Whilst the deer are quietly grazing, the wolves assemble in great numbers ; and, forming a crescent, creep slowly towards the herd, so as not to alarm them much at first ; but when they perceive that they have fairly hemmed in the unsuspecting creatures, and cut off their retreat across the plain, they move more quickly, and with hideous yells terrify their prey, and urge them to flight by the only open way, which is towards the precipice ; appearing to know that, when the herd is once at full speed, it is easily driven over the cliff—the rearmost urging on those that are before.

The wolves then descend at their leisure, and feast on the mangled carcasses."

Ferocious as the wolf of all countries is in the chase of weaker animals, he is ever extremely apprehensive for his own safety. In North America, a bladder hung upon a pole, and blown about by the wind, will deter him from molesting the numerous herds of buffaloes. He is in continual dread of being entrapped to his destruction. He will always attack a rein-deer when loose ; but if the animal is tied to a stake, he fears to approach, considering that a pitfall is near, and that the deer is placed there to entice him to it. The Esquimaux, however, often take him in a trap made of ice, at one end of which is a door of the same abundant material, fitted to slide up and down in a groove ; to the upper part of this door a line is attached, and, passing over the roof, is led down into the trap at the inner end, and there held by a peg of ice in the ground. Over the peg the bait is fastened ; and the whole machinery is concealed by a false roof. Of course, when the bait is removed, the line slips off the peg, and the door comes down. This contrivance is quite in character with the surrounding scenery ; and thus the wolf is deceived, in spite of his habitual caution. Two were taken at Winter Island in this manner, at the time of Captain Parry's second voyage. The Indians in the neighbourhood of Lake Winnipic, which is the reservoir of several large rivers, and discharges itself by the river Nelson into Hudson's Bay, were, till a very recent period, principally employed in trapping wolves. They were accustomed to make tallow from their fat, and prepare their skins to exchange with the traders from Montreal. The dealers in fur, associated into a company in Canada, exported to England in one year (1798) wolf-skins to the number of three thousand eight hundred.*

* Mackenzie's Voyages, 1801.

As civilization has advanced in these fine provinces, the Indians, and the beasts of the forests and rivers, have been driven further and further into the wilds, onward to the coldest regions. But the trade in furs of North America is still very considerable, and is now principally in the hands of the Hudson's Bay Company. Some idea of the destruction of animal life, to provide for the comforts and luxuries of Europeans, may be formed from the statements which we gather in Captain Franklin's Narrative of his Journey—that, in 1822, the Hudson's Bay Company imported 3000 skins of the black bear, 60,000 of the pine marten, 1800 of the fisher (a species of sable,) 4600 of the mink, 7300 of the otter, 8000 of the fox, 9000 of the Canadian lynx, 60,000 of the beaver, 150,000 of the musk rat; beside smaller numbers of the skins of wolves, wolverines, badgers, and racoons.

Amongst the modes of catching or destroying wolves practised by rude nations, Pennant mentions that the Kirghese Cossacs (Tartars) take them by the



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help of a large hawk called *Berkut*, which is trained to attack them, and will fasten on their head, and deliberately tear out their eyes.

Amidst this constant warfare of mankind against the wolf, it is not surprising that the character of the species should be that of ferocity, cunning, and suspicion ; that they should be with difficulty tamed ; and that the human race should be to them the object of dread and of aversion. It is probably owing to the influence of the same hereditary fear, that both the male and female wolf are most remarkably solicitous for the protection and defence of their young. The female prepares a nest, or she burrows, (as is the case with most of the American varieties,) in almost inaccessible situations : she lines this retreat with moss, and with her own hair. She suckles her cubs for two months, during which the he-wolf supplies her with food. When they begin to eat, they are fed with half-digested meat, which the parents themselves disgorge ; and till the cubs are sufficiently grown to protect themselves—that is, till they are six or eight months old—the parents invariably watch over their safety. The female Fox is distinguished in the same manner for the care of her young. It is to this strong affection for their offspring, increasing doubtless with the necessity for protection, that the race of wolves has not, long ago, been extirpated, at least in Europe. Were the young left without the aid of this extraordinary parental care, they would have little chance of escape from the indefatigable hostility of man. A distinguished writer and naturalist of the last age says, “There are no animals destitute of some means to preserve themselves and their kind ; and these means so effectual, that notwithstanding all the endeavours and contrivances of man and beast to destroy them, there is not to this day one species lost of such as are mentioned in

history.”* This must be taken with a limitation to the *recent* races of animals—those “mentioned in history ;” for the researches of naturalists have discovered fossil remains of animals, differing from any which we at present know. And yet it is by no means certain that some of these animals do not even now exist, although we are unacquainted with them.† The kangaroo, and the ornithorhynchus, two of the most extraordinary creatures of Australasia, with which we are now familiar, were unknown to Europeans half a century ago. Large tracts of Africa are yet unexplored ; and it is possible that the future enterprise of such travellers as those who have already penetrated some distance into those regions, may be successful in discovering either the abodes of civilization, or, what is more probable, new varieties of animal life unsubdued by man, and essentially differing from those of which the human race has already made a conquest.

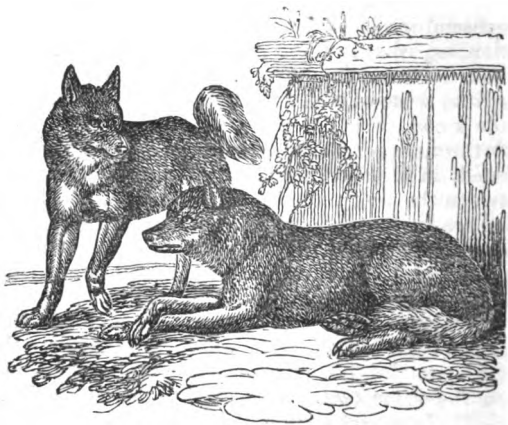
In the menagerie of Mr. Wombwell, there were exhibited, in October, 1828, two animals from a cross between the wolf and the domestic dog, which had been bred in this country. They were in the same den with a female setter, and were likely again to multiply the species. A similar circumstance is related by the celebrated anatomist, John Hunter, in the *Philosophical Transactions* for 1787 : and he contends, that this fact establishes that the wolf and the dog are the same species. He deduces the like conclusions, from the same fact, with regard to the dog and the jackal. In corroboration of this argument, we may add, Sir Everard Home mentions the intestines of the dog and the wolf as of similar length, while those of the fox are shorter. The length of the in-

* Ray's *Wisdom of God*, in the *Works of the Creation*.

† See Home, *Comparative Anatomy*, vol. iii. p. 180,

testines is important with regard to the habits of the animal. In those wholly of a carnivorous nature, such as the lion, the intestinal canal is considerably shorter than in those which feed even occasionally on vegetables.

The female wolf goes with young sixty-three days, producing from five to nine whelps at a litter, whose eyes are not opened till about the twelfth day, like the whelps of the dog. The average duration of the wolf's life is from fifteen to twenty years.



Mixed breed of Dog and Wolf.



Canis aureus, LINNÆUS—*Le Chacal*, FRED. CUVIER,

WE have already mentioned that there is no essential difference in the jackal and the dog ; and we have seen that, in the principal point which determines the identity of a species,—the power of continuing a mixed variety,—the dog, the wolf, and the jackal, are entirely similar. The difference, therefore, which certainly exists in their character, must be found in hereditary habit, whether amongst the domesticated or the wild varieties.

There are three jackals in the Zoological Gardens, presented to the society by different individuals. The average length of their bodies is about two feet, and their height, at the most elevated part of the back, one foot. The length of the tail is about seven inches. The eyes, of which the pupils are round, as in the dog, are small ; the tail bushy, as in the fox, but

descending only to the heel ; the hide covered with a thick hair of middling length, with a very small quantity of fur. The head, neck, sides of the belly, thighs, and outer part of the limbs and ears, of a dirty yellow ; underneath and on the sides of the lower jaw, the end of the upper lip, under the neck and belly, and the inner surface of the limbs, somewhat white ; the back and sides of the body to the tail, of a gray yellow, which is abruptly divided from the surrounding lighter colours ; the tail a mixture of yellow and of black hair, the black prevailing at the extremity ; the muzzle and nails black ; the eyeballs black.

We have described the jackal thus minutely, for, at the time of Pennant, no specimen had been brought to England ; and the popular descriptions of this animal are, therefore, singularly vague. This is remarkable, when we consider the extreme abundance of the jackal in the Levant, and other parts of the eastern world, with which this country has long had commercial intercourse. He is found in Africa, from the Cape of Good Hope to Barbary ; in Syria, in Persia, and in all Southern Asia. It is considered by the best commentators that the three hundred foxes to whose tails Samson tied firebrands, were jackals. Their habit of assembling together in large troops, so as to be taken in considerable numbers, justifies this conclusion ; for the fox is a solitary animal. To the inhabitants of hot countries the jackal is of the same service as the vulture and the hyæna. He does not require living prey to feed upon ; but, wherever there is an animal body in a state of decomposition, his nose scents it at a great distance, and the air is soon freed from the putrescence.

But the jackal is still a beast of prey ; and the association of the species in strong packs enables them to hunt down the antelope and the sheep. He has

been popularly called the lion's provider. The common notion that he is in confederacy with the lion, for the chase of their mutual prey, is an erroneous one. At the cry of the jackal, echoed as it is by hundreds of similar voices through the woods and arid plains, the lion, whose ear is dull, rouses himself into action. He knows that some unhappy wanderer from the herds has crossed the path of the jackal, and he joins in the pursuit. Of this nocturnal cry we have read the most fearful accounts. "The chacal's shriek" has been often described as more terrific than the howl of the hyæna, or the roar of the tiger; and it probably is most alarming, from its singular dreariness, amidst the lonely regions in which it is heard. It is well described in Captain Beechey's account of his Expedition to explore the Northern Coasts of Africa:—"The cry of the jackal has something in it rather appalling, when heard for the first time at night; and as they usually come in packs, the first shriek which is uttered is always the signal for a general chorus. We hardly know a sound which partakes less of harmony than that which is at present in question; and, indeed, the sudden burst of the answering long-protracted scream, succeeding immediately to the opening note, is scarcely less impressive than the roll of the thunder-clap immediately after a flash of lightning. The effect of this music is very much increased when the first note is heard in the distance (a circumstance which often occurs) and the answering yell bursts out from several points at once, within a few yards, or feet, of the place where the auditors are sleeping."

The difficulty of domesticating the jackal, if it were desirable, would arise from two causes. The one is the strong odour which he emits, as filthy as that of the fox; and yet it is said that the skunk (a species of civet) loses its offensive smell in captivity. The other

cause is the extreme timidity of the jackal at the sight of a stranger,—he flies when he is approached, although he attempts no resistance when touched. This is, perhaps, a peculiarity arising out of confinement ; for Captain Beechey says, that he has frequently gone close up within a few yards of a jackal in the wild state, before he would turn to walk away.

There are several other species of the group *Canis*, which very nearly resemble the jackal ; we may, probably, have opportunities, in the progress of this work, of describing them from living specimens.

It appears, from a paper by John Hunter, (Phil. Trans. 1787,) that a female jackal, which whelped in this country, went with young about the same period as the dog ; and that the whelps were first blind as those of the dog.



Canis Decussatus—GEOFFROI.
Renard croisse—DESMAREST.

THE Cross Fox, in the Gardens of the Zoological Society, differs very little in shape from the common fox. The colour of his fur is a sort of gray, resulting from the mixture of black and white hair ; he has a black cross on his shoulders, from which he derives his name. The muzzle, the lower parts of the body, and the feet, are black ; the tail is terminated with white.

This species of fox is a native of North America ; and in his habits he differs very little from the fox of Europe. Whether found in the Old or New World, the fox is the same wily and voracious animal ; greedily seizing upon birds and small quadrupeds, either in the woods or near the habitations of man ; burrowing with great ingenuity, so as to elude observation, and providing for escape with equal sagacity ;

hunted by man ; disliked and betrayed by most of those animals who have a dread of his attacks ; and extremely difficult to be tamed, even when caught very young.

The fox, like the wolf, is the constant object of persecution, from the ravages which he commits upon the exposed property in the fields and habitations of men. He has been a destroyer of vineyards from the earliest times : " Take us the foxes, the little foxes, that spoil the vines."* He devours honey ; he sucks eggs ; he carries off poultry ; he kills the hare in her form, and the rabbit in the warren. He is, therefore, universally hunted and destroyed. In England, the breed is not extinct, partly from the extreme prudence of the animal, and partly because it is considered unsportsmanlike to kill a fox, except in the chase. Fox-hunting, perhaps, furnishes the best excuse for the continuance of a custom which, although it has been called an instinct of man, must certainly be an instinct belonging to a very rude and early state of society.

The fox may in some degree be considered a nocturnal animal ; for, in a strong light, the pupil of the eye contracts, like that of the cat.

The female fox produces four or five whelps at a litter, which arrive at maturity in about eighteen months, and live, upon the average, thirteen or fourteen years.

Having thus noticed many interesting specimens, and given some general particulars, of the family of dogs, we subjoin their scientific character :—

The group of carnivorous quadrupeds, known by the name *Canis*, and which is found in all parts of the habitable globe, excepting a few islands of the

* Song of Solomon.

Pacific Ocean, comprehends the dog, the wolf, the jackal, and the fox.

The teeth of this group are thus arranged :—

Incisors $\frac{6}{6}$, Canine $\frac{1-1}{1-1}$, Molar $\frac{6-6}{7-7}$, Total 42.

They have two tuberculous teeth behind each carnivorous one. Their teeth are equally fitted for devouring animal and vegetable substances.

The tongue is not rough, as in the cat, but perfectly smooth.

They walk upon the ground with their toes, which have curved claws for scratching the earth. These claws are not retractile, or capable of being drawn back within a sheath. Each of the fore feet has five toes, four of which only touch the ground. The hind feet have generally four toes, though in a few varieties a fifth is developed.

In the dog, the wolf, and the jackal, the pupils of the eyes are round ; in the fox, they are transversely lincar.

Note.—The following engraving, which represents one side of the skull of the jackal, is principally given to shew the form and arrangement of the *teeth* of the group of dogs ; viz., 6 incisors, or cutting teeth, in each jaw in front ; 2 canine, or tearing teeth (tusks) in each jaw next the incisors ; and 6 molar, or grinding teeth, in the upper jaw, and 7 in the lower, ranging from the canine teeth to the back of the jaw, on each side of the mouth.



Skull of the Jackal.

CHAPTER V.

THE HYÆNA.

WE may often, in the course of this work on Menageries, be hurried abruptly away from one species of beings to a very different species ; following, in this respect, the course of the mind itself, which cannot exactly define, although it yields to, some association of ideas which may appear in themselves to have no essential connexion. For instance, without any great violation of propriety, we might have gone from the sagacity of the dog, which is most developed in its intercourse with man, to the extraordinary instinct of the beaver, which is wholly devoted to the preservation and comfort of its species, without any direction from the intelligence of the human race. The trains of thought, by which any one part of the animal kingdom (limiting even our observations, as at present, to Quadrupeds) may be connected with another, are so various, that we might, not being strictly bound by a scientific arrangement, take either the moral or the physical relations by which this great variety of creatures is associated. But we shall generally prefer, as the most obvious course, to be guided, wherever we can, by *natural* similarities ; for these determine the approximating relations as to physical structure, and thence as to the more important habits, of the individual quadrupeds which are presented to our notice : and wherever there are *links*, as they are both popularly and scientifically called, connecting one species with

another, and breaking down the abrupt transitions which, to an imperfect observation, might appear to prevail in the family of Nature, particularly to point out those links, as affording some of the most striking of the numberless illustrations of the harmony that prevails throughout all the visible world. It is probably owing to the imperfections of our knowledge, that this harmony is not discovered in every portion of existence ; that the gradations with which the universal law of God's providence works, are not always perceptible to our limited faculties ; and that we are thus sometimes startled by the infinite diversity of the various modifications of being, when, in truth, an accurate examination would exhibit, instead of what we consider abrupt differences, an endless succession of changes so minute and gradual, as to approach to similarities, (links of the same chain,) from the humblest flower up to the highest condition of animal life in ourselves. "There is, in this universe, a stair, or manifest scale of creatures, rising not disorderly, or in confusion, but with a comely method and proportion."*

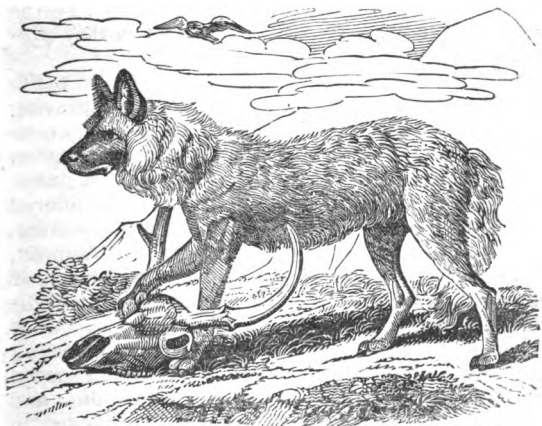
The dog—we mean the group which we have described under the generic name *Canis*—and the hyæna, are essentially different species. Their teeth are very different. This distinction, as we shall have occasion repeatedly to shew, constitutes the principal character by which a naturalist determines the identity, or the difference, of the animals which come severally under his observation. It was not a vain boast, when a zoologist exclaimed, "Shew me the tooth of an animal, and I will inform you of the history of a being which I never saw." By the largeness of the tooth he could judge of the relative size of the animal which bore it ; and by the form of the

* Religio Medici, § 83.

tooth he could tell whether it was fitted to grind grass or to tear flesh ; and therefore whether it belonged to an herbivorous or a carnivorous species. Carrying on his inquiries from this point, he could decide, in a great degree, as to the structure not only of the stomach and of the viscera, but of the extremities, whether armed with claws or protected with hoofs ; and, looking still onward, he could thus judge of the vivacity of the senses which belonged to the animal, and of the habits which it derived from its peculiar conformation :—knowing, beyond doubt, that there was an intimate agreement in all the properties of its existence ; and that every thing in its organization was regulated by an undeviating harmony. The dog and the hyæna, therefore, being essentially different in the number and form of their teeth, constitute different species, without regard to their external appearance. But naturalists are not entirely regardless of outward shape or colour, or even of the more subtle variations of habit, in determining the relations between one group and another ; and thus differences as to classification sometimes arise, which are, after all, only settled by a balance of similarities. Within these few years, a quadruped has been brought from Africa, which is common enough about the Cape, partaking very much of the qualities both of the dog and the hyæna. In the number and arrangement of its teeth, and in the form and number of its ribs, it belongs to the species of dog ; partly in form and in colour, in the number of its toes, and, it is said, in one most important circumstance connected with the continuance of its race, it resembles the hyæna. From these similarities and these differences, it has been assigned by naturalists both to the species of the hyæna and the dog. Mr. Burchell, the African traveller, who first brought a specimen to England, calls it *Hyæna venatica*, the hunting

hyæna; M. Temminck, in an interesting memoir especially devoted to the subject, names the animal *Hyène peinte*, the painted hyæna; and M. Desmarest, *Canis pictus*, or *Loup peint*, the painted Wolf.

The specimen which we have selected for representation is in the travelling menagerie of Mr. Wombwell. This animal, which has been several years in England, was brought from the Cape, and was formerly in the possession of Mr. Bullock, of the Egyptian Museum. It was accidentally lamed in the right foot, by leaping out of a window; by which the limb is shortened



Hyæna-Dog.

Canis pictus, DESMAREST—*Hyæna venatica*, BURCHELL.

In the Menagerie of the Tower there is also a specimen of this remarkable quadruped. The markings on the coat (from which the hyæna-dog derives the name "painted") are somewhat more distinct in this individual than in that belonging to Mr. Wombwell

this may probably be an effect of the difference of age. In the form of the head, they are each more like the hyæna than the dog ; and the strength of their jaws is singularly great—another point of resemblance to the hyæna. We have observed the animal in the Tower peeling the gristly matter from the shin-bone of an ox; and we were much astonished at the extraordinary force he displayed, compared with the general slightness of his make. The legs of the hyæna-dog are longer than those of most dogs ; and his appearance is indicative of great lightness and speed. He is, in point of bodily power, a most formidable enemy to the herds of the colonists; and as these dogs hunt in troops, the destruction they produce is very considerable.

We have reason to believe, from a comparison of the hyæna-dog represented in the preceding engraving with that in the Tower, that these animals vary considerably, both as to the brilliancy and the distribution of the spots upon their bodies. M. Desmarest states, that the one described by M. Temminck differed greatly in this respect from another specimen, brought from the Cape by M. Delalande. Without, therefore, entering into a more minute description of the hyæna-dog, we may state that in his general dimensions he resembles the wolf of Europe, but is somewhat sligher, and more elevated on his legs ; that his hide, which is of a sandy bay colour, is varied by large spots of black, brown, red, and white ; and that his tail is bushy towards the end, is divided in the middle, as to colour, by a ring of black, and reaches the ground.

Mr. Burchell, who, during his travels in the interior of Southern Africa, first particularly observed the distinctive character of this animal, which he called the hunting hyæna, from its habits, has this passage in his Journal of the 6th of June, 1812 :—" In the

morning Philip returned with the oxen ; but reported, that in consequence of Abram Abrams neglecting, on the night before, to secure them as usual in the cattle pound, the *wilde honden* (wild dogs) had bitten off the tails of three : one had only lost the brush ; but the others were deprived of the whole. This species of hyæna is remarkable for hunting in regular packs. Though in general a nocturnal animal, it frequently pursues its prey by day ; and as it is well formed by nature for speed, none but the fleetest animals can escape. Sheep and oxen, therefore, are more particularly exposed to its attacks ; the first openly, but the latter only by stealth, as in the present instance, surprising them in their sleep, and suddenly biting off their tails, which the large opening and great power of their jaws enable them to do with ease. I have never heard that large cattle are assaulted by them in any other way ; but the loss of their tail is a cruel inconvenience to cows and oxen, in a country where the warmth of the climate subjects them to great annoyance from flies."

The hyæna-dog in the Tower is somewhat playful, and does not appear very violent. Mr. Burchell kept one chained up for thirteen months, in a stable-yard ; and during that time its ferocious nature deterred every body from an attempt at taming it. At length, it became so much softened in its manners, as to play with a common domestic dog, which was also chained in the yard, without manifesting any desire of injuring its companion. The man who fed it, however, never dared to venture his hand upon it.

Reverting to the introductory observations of this Chapter, we may not improperly say a few words, as to those links which appear to connect every variety of organization in one grand chain. As the partition between the dog and the hyæna seems to be

somewhat broken down by the discovery of an animal whose physical structure, in many particulars, bears a resemblance to each *species* ; so, in the same manner, the greater partition which separates the *class* of Mammalia from that of Birds, has been of late years in part removed, by the discovery of an animal possessing the beak of a bird, and the four feet of a quadruped. The history of this extraordinary animal, the *Ornithorhynchus*, a native of New South Wales, is still imperfectly known ; and the most celebrated anatomists of Europe are still divided in opinion respecting the class to which it belongs ; although the recent investigations of Professor Meckel afford stronger evidence than has been hitherto adduced, of its belonging to the Mammalia, or those animals which suckle their young.* While regarding such instances as these, in which the lines of separation, not only between one family and another, but even between one class and another, are blended, as it were, together, we must not hastily take up an idea that such varieties of animal life are the result of accidental combinations of creatures of a different species. If the species be essentially different, Nature has interposed, either to prevent their multiplying at all, or has forbidden the further multiplication of the produce beyond the first generation ; having established barriers, which have been, as yet, found impassable, against that violation of her beauty and propriety which would result from an unlimited mixture of distinct races. In every case where a new animal is found, it may, therefore, reasonably be concluded that the species has not before been known to man. The same principle applies to fossil remains.

“ This branch of anatomy—fossil osteology” (the knowledge of fossil bodies)—“ not only brings to

* Vide Blumenbach’s Comparative Anatomy, by Lawrence and Coulson, p. 366.

our knowledge races of animals very different from those with which we are acquainted, but supplies many of the intermediate links in the gradation of structure which are wanting in the present creation; and, therefore, makes it probable that, when the two are sufficiently investigated, one regular and connected chain will be formed, each class of animals imperceptibly running into that which is next to it.”*

And this consideration naturally leads us to contemplate the vast extent of the animal kingdom, as laid open to our view, however imperfectly, by the labours of successive naturalists. The Psalmist marks, first, the extent and variety of the creation, and afterwards the law by which it has been created—“How *manifold* are thy works, O Lord ! in wisdom hast thou made them all.” Ray, whom we have already mentioned, takes this position as the text for his admirable work on “the Wisdom of God.” His statements of the number of known species, compared with the results of similar inquiries in our own day, offer a striking subject of comparison.

“The species of *beasts*,” says he, “including also *serpents*, are not very numerous : of such as are certainly known and described, I dare say not above *one hundred and fifty*. And yet I believe not many, that are of any considerable bigness, in the known regions of the world, have escaped the cognizance of the curious.” In the most complete modern works on natural history, we find described about *five hundred* species of quadrupeds and other mammalia ; and the number of reptiles nearly approaches *six hundred*, since the discovery of many new species of serpents in the East Indies.

Ray thus continues : “The number of *birds* known and described may be near *five hundred*, and the

* Home—Comp. Anat. vol. iii. p. 188.

number of *fishes*, secluding shell-fish, as many ; but if the shell-fish be taken in, more than six times the number. How many of each genus remain yet undiscovered, one cannot certainly nor very nearly conjecture ; but we may suppose the whole sum of beasts and birds to exceed by a third part, and fishes by one half, those known." According to Latham, and other ornithologists, the class of birds reaches nearly *four thousand* in number, or eight times the number mentioned by Ray. Of fishes, Bloch and Lacépède have described more than two thousand ; and, from later discoveries, we may conclude that there are about *three thousand* known species. Of *molluscous animals*, and of shell-fish in particular, *seven* or *eight thousand* species have been determined ; although it should be observed that, in this department of natural history especially, it is extremely difficult to pronounce upon the distinctions of species, without being led astray by accidental variations.

The researches of modern naturalists have extended our certain knowledge of the various species of *insects* in a very surprising degree. At the time when Ray wrote his work, 1691, the catalogues of insects were exceedingly imperfect ; and he is therefore obliged to form conjectures as to their numbers. He considers that there are two thousand British insects ; and, reasoning by analogy from the proportion of native and exotic plants, he concludes that there are twenty thousand insects in the whole world. The catalogue of Fabricius, a distinguished entomologist, contained, in 1781, the enumeration of eighteen thousand species ; but according to Latreille, subsequent discoveries have raised that number to *twenty-five thousand*, of those actually known, described, and classified. In America, in particular, the new species that are constantly discovered are absolutely bewildering to the naturalist.

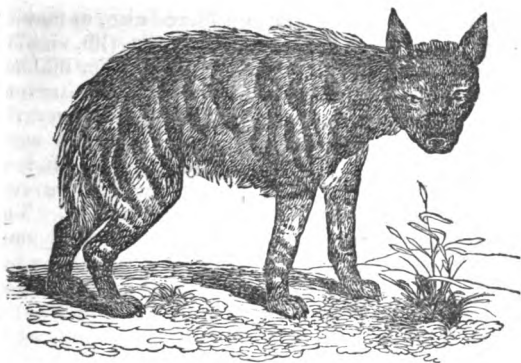
To complete this enumeration of the extent of the “ manifold works ” of Providence, we should not omit to mention a class of animal life, which Ray does not notice, the worms, and particularly that class which connects the animal kingdom with the vegetable, the zoophytes. These classes, including the star-fish, the polypi, the coral insect, (or madre-pores,) the sponges, and the microscopic animalcules, appear to baffle, in their variety, as well as in their minuteness, all conclusive investigation ; and yet *between three and four thousand* species have already been described.

We thus see that, up to the present time, we have about *fifty thousand different species* of animal life described by modern naturalists ; and probably, exactly in the proportion that their labours have gone far beyond the bounds of discovery contemplated as possible by earlier inquirers in the same fruitful field, will the discoveries of future naturalists shew that this vast enumeration which we have just stated, is equally short of a complete account of the results produced by the extraordinary fecundity of every department of nature. The more minutely we examine the neighbourhood in which we live,—nay even a single bed of the very garden, or the smallest portion of the very field, in which we daily walk,—the more will our attention be repaid by the discovery of some new and surprising variety of existence. Ray, with that candour and modesty which is the great characteristic of a philosophic mind, says, “ Having this summer, anno 1691, with some diligence prosecuted the study of our English insects, and making collections of the several species of each tribe, but particularly and especially of the butterflies, both nocturnal and diurnal, I find the number of such of these alone as breed in our neighbourhood (about Braintree and Noteley in Essex) to exceed the sum

I last year assigned to all England." In the same spirit, Linnæus, one day herbarizing with his pupils, covered with his hand a green turf, saying that he had that under his hand whose consideration might justly occupy all of them for a considerable portion of their lives. He verified this assertion by shewing that within that space there were thirty-four different species, either of grass, or moss, or insects, or animalcules, or varieties of mineral. "How then," continued Linnæus, "shall we estimate the total productions of the entire globe, when the little space that my hand covered is found to contain so many various objects?"

Having thus described the species, or the variety, called the hyæna-dog, we proceed to that species which is essentially different from the dog, the HYÆNA. With this animal the people of our country are generally familiar, from the opportunities which they have constantly had of seeing it in menageries. There are only two species now known—the striped and the spotted.

The following engraving is a portrait of a Striped hyæna in Mr. Cross's menagerie at Exeter Change, in September, 1828. Its height was twenty-five inches. We should imagine this specimen was somewhat more than an average height; for Desmarest gives (in English measure) the height of the striped hyæna, at the shoulders, as nineteen inches. The ordinary length of the body, from the muzzle to the tail, is about three feet three inches. The colour of the striped hyæna is a brownish gray, with transverse bands of dark brown on the body, which stripes become oblique on the flanks and the legs. The hide is composed of two sorts of hair; the fur, or wool, in very small quantity, and the silky hair, long, stiff,



Striped Hyæna.
Hyæna vulgaris, DESMAREST; *Canis Hyæna*, LINNÆUS.

and not very thick, excepting on the limbs, where the hair is short and close, and on the muzzle, which is quite shaven, as well as the external face of the ears. The hair upon the line of the back is much thicker and stronger than on any other part, particularly on the withers, forming a sort of mane, extending from the nape of the neck to the beginning of the tail, which is also covered with long hair.

The striped hyæna is a native of Barbary, Egypt, Abyssinia, Nubia, Syria, and Persia. This species was known to the ancients, and is described by Aristotle with much correctness. Pliny, however, and other writers on natural history, have left us abundant proofs of the extent of human credulity, when employed upon such objects as ferocious animals, whose habits were imperfectly known, and were calculated to produce terror and disgust. The hyæna possesses great strength in the neck, and for this reason, Pliny, and other ancient writers, believed that his neck consisted of one bone, without

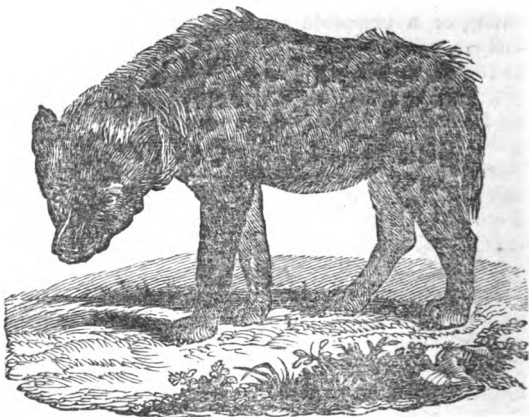
any joint. The ancients considered also, as may be seen by a passage in Lucan's *Pharsalia*, (lib. vi. 672) that this neck without a joint was of peculiar efficacy in magical invocations. Shaw tells us, in his travels, that the Arabs, when they kill a hyæna, bury the head, lest it should be made the element of some charm against their safety and happiness. It is in this way that superstitions extend themselves through the world, and endure for many generations. The Greeks and Romans believed, too, of the hyæna, that it could change its sex ; that it imitated the human voice (the popular name of *laughing* hyæna is, perhaps, derived from this notion,) and that it had the power of charming the shepherds so as to rivet them to the spot upon which they were met by the quadruped, in the same way that a serpent fascinates a bird. A somewhat similar notion prevailed amongst the poets and naturalists of antiquity with regard to the wolf ; they affirming, that if a man encountered a wolf, and the wolf first fixed his eye upon him, he was rendered incapable of speaking, and became permanently dumb. These stories, both of the hyæna and the wolf, are evidently exaggerations of the fear which would naturally be produced by the sudden encounter with a ferocious and dangerous animal. Many of the notions of antiquity, with regard to the structure and habits of animals, were equally irrational. It was gravely maintained, for instance, that the elephant had no joints, and, being unable to lie down, slept leaning against a tree ; that the badger had the legs of one side shorter than those of the other ; that the bear brought forth her cubs imperfectly formed, and licked them into shape ; that deer lived several hundred years ; that the cameleon derived its support solely from the atmospheric air. These, and many other fancies, proceeded either from a literal construction of metaphorical expres-

sions, or a complete ignorance of the economy of nature, with regard to the laws by which animal life is regulated. "There are no grotesques in nature." Such errors as these have long since been exploded, and the cause of real knowledge has been therefore greatly advanced, by the substitution of the true for the fabulous. The popular interest of natural history is not necessarily reduced by this separation of fact from fiction : for the more we examine the operations of nature, the more shall we be sensible of the real wonders which they present ; but which, however extraordinary they may appear, are never inconsistent with the great principles of organization, and are never calculated to present any exceptions to the beauty and harmony of that design by which every living thing is formed and sustained.

The qualities of the two sorts of hyæna are so similar, that we may simplify our description of the habits of each, by describing, at this point, the particular appearance of the spotted species.

The individual represented in the next page is in Mr. Cross's collection. In September last, he was eight months old, and was about twenty inches in height.

The spotted hyæna is a native of Southern Africa ; and the species is found, in large numbers, in the neighbourhood of the Cape of Good Hope ; from this circumstance, Desmarest named it. The general shape of this hyæna is very similar to that of the striped, though it is ordinarily smaller. The mane is remarkable, but not quite so full as in the striped species. The general colour of the hide is a dirty yellow, approaching to a blackish brown on the belly and limbs, with spots also of a blackish brown, more or less deep, on all parts of the body, excepting the under part of the belly and of the

*Spotted Hyæna.**Canis crocuta*, LINNÆUS ; *Hyæna Capensis*, DESMAREST.

breast, the inner surface of the limbs, and the head ; the extremity of the muzzle is black ; the tail is brown, without spots.

The peculiar powers of the hyæna, arising out of the extraordinary strength of his jaws and teeth, admirably fit him for the purposes which he serves in the economy of nature. An inhabitant of warm countries, he principally derives his subsistence, in common with the jackal and the vulture, from those animal remains, which, if unconsumed, would produce the most serious inconvenience. All the narratives of residents in, or travellers through, Southern Africa, agree in their accounts of these facts. Mr. Pringle, in the notes to his "Ephemerides," says, "There are several species of the vulture in South Africa, but the most common is the large light-coloured *vultur percnopterus*, one of the sacred birds of the ancient Egyptians. These fowls divide with

the hyænas the office of carrion-scavengers ; and the promptitude with which they discover and devour every dead carcase is truly surprising. They also instinctively follow any band of hunters, or party of men travelling, especially in solitary places, wheeling in circles high in the air, ready to pounce down upon any game that may be shot and not instantly secured, or the carcase of any ox or other animal that may perish on the road. I have seen a large ox so dexterously handled by a flock of these voracious fowls, that in the course of three or four hours not a morsel, except the bones and the skin, (which they had contrived to *disincarnate* almost entire,) remained for the hyænas. In a field of battle in South Africa, no one ever buries the dead : the birds and beasts of prey relieve the living of that trouble. Even the bones, except a few of the less manageable parts, find a sepulchre in the voracious maw of the hyæna." Mr. Burchell, speaking of the office of vultures in hot regions, says, "Vultures have been ordained evidently to perform very necessary and useful duties on the globe ; as, indeed, has every other animated being, however purblind we may be in our views of their utility ; and we might almost venture to declare that those duties are the final cause of their existence. To those who have had an opportunity of examining these birds, it need not be remarked how perfectly the formation of a vulture is adapted to that share in the daily business of the globe which has been allotted to it—that of clearing away putrid or putrescent animal matter, which might otherwise taint the air and produce infectious disease." The vulture is enabled to perform these duties, in countries of great extent and thinly-scattered population, principally from his extraordinary powers of *sight*. The wonderful extent of vision of this bird's eye is shewn in the following instance :—"In the year 1778, Mr.

Baber, and several other gentlemen, were on a hunting party, in the island of Cossimbuzar, in Bengal, about fifteen miles north of the city of Murshedabad. They killed a wild hog of uncommon size, and left it on the ground near the tent. An hour after, walking near the spot where it lay, the sky perfectly clear, a dark spot in the air at a great distance attracted their attention. It appeared to increase in size, and move directly towards them: as it advanced, it proved to be a vulture flying in a direct line to the dead hog. In an hour, seventy others *came in all directions*, which induced Mr. Baber to remark, this cannot be smell.* The faculty of *smell* of the hyæna conducts him as certainly to his food as the *sight* of the vulture. Major Denham tells us in his Journal, "the hyænas came so close to the tents last night, that a camel, which lay about a hundred yards from the inclosure, was found nearly half-eaten. A lion first made a meal on the poor animal, when the hyænas came down upon what he had left." Mr. Burchell says, "A new species of antelope, which had been shot late on the preceding evening, was fetched home; but during the night, the hyænas, or wolves as they are usually called by the Boors and Hottentots, had devoured all the flesh, leaving us only the head and the hide." These, and many more instances which we might select, shew us that in these regions, in the very hour when any quadruped falls, the sharp-scented hyænas immediately make their appearance, and rush into the encampments of man for their share of the prey. At the Cape, they formerly came down into the town, unmolested by the inhabitants, to clear the shambles of their refuse. The common notion that they tear newly-buried bodies out of graves is not inconsistent with their extraordinary

* Home, Comp. Anat. vol. iii. p. 216.

voracity, and the peculiar strength of their claws. It is well ascertained that hyænas devour the dead carcases of their own species.

But the depredations of the hyæna are not confined to the remains of the dead. There are periods when they become bold from extreme hunger, and will carry off very large animals, and even human beings, with the most daring ferocity. Major Denham says, "at this season of the year," (August,) "there are other reasons, besides the falls of rain, which induce people to remain in their habitations. When the great lake overflows the immense district which, in the dry season, affords cover and food, by its coarse grass and jungle, to the numerous savage animals with which Bornou abounds, they are driven from these wilds, and take refuge in the standing corn, and sometimes in the immediate neighbourhood of the towns. Elephants had already been seen at Dowergoo, scarcely six miles from Kouka; and a female slave, while she was returning home, from weeding the corn, to Kowa, not more than ten miles distant, had been carried off by a lioness. The hyænas, which are everywhere in legions, grew now so extremely ravenous, that a good large village, where I sometimes procured a draught of sour milk on my duck-shooting excursions, had been attacked the night before my last visit, the town absolutely carried by storm, notwithstanding defences nearly six feet high of branches of the prickly tulloh, and two donkies, whose flesh these animals are particularly fond of, carried off, in spite of the efforts of the people. We constantly heard them close to the walls of our own town at nights; and on a gate being left partly open, they would enter and carry off any unfortunate animal that they could find in the streets."

With this strong desire for food, approaching to the boldness of the most desperate craving, the

hyæna, although generally fearful of the presence of man, is an object of natural terror to the African traveller. Bruce relates, that one night in Maibsha, in Abyssinia, he heard a noise in his tent ; and getting up from his bed, saw two large blue eyes glaring upon him. It was a powerful hyæna, who had been attracted to the tent by a quantity of candles, which he had seized upon, and was bearing off in his mouth. He had a desperate encounter with the beast, but succeeded in killing him. In the neighbourhood of the ruins of those cities on the northern coast of Africa, which, in ancient times, were the abodes of wealth and splendour, and witnessed the power of the Ptolemies and Cæsars, the hyæna is a constant resident, and increases the sense of desolation by the gloominess of his habits. At Ptolemeta, where there are many remains of former architectural magnificence, the fountains which were constructed for the accommodation of an enormous population are now useless, except to the wandering Arab, and to the jackal and hyæna, who stray amongst these ruins after sunset, to search for water at the deserted reservoirs.* Seldom does the hyæna molest the traveller in these solitudes ; but his howl, or the encounter of his fierce and sullen eye, is always alarming. Captain Beechey says, “ although we had very frequently been disturbed by hyænas, we never found that familiarity with their howl, or their presence, could render their near approach an unimportant occurrence ; and the hand would instinctively find its way to the pistol, before we were aware of the action, whenever either of these interruptions obtruded themselves closely upon us, either by night or by day.” Such encounters are generally without any fatal results, if the man does not commence the

* Beechey.

attack ; the hyæna sets up a howl, and doggedly walks away, with his peculiar limping motion, which gives him an appearance of lameness : but when he is attacked, his resistance is as fierce as it is obstinate.

The hyæna has always been an object of aversion to mankind ; and this feeling has been kept up, not only by the showman's stories of " that cruel and untameable beast, that never was yet tamed by man," but by writers of natural history, from the days of Pliny to those of Goldsmith. The latter pleasant compiler tells us, " no words can give an adequate idea of this animal's figure, deformity, and fierceness. More savage and untameable than any other quadruped, it seems to be for ever in a state of rage or rapacity." With regard to its deformity, we are rather of opinion with Sir Thomas Brown, that " there is a general beauty in the works of God ; and therefore no deformity in any kind of species of creature whatsoever : " and, with him, we " cannot tell by what logic we call a toad, a bear, or an elephant ugly, they being created in those outward shapes and figures which best express those actions of their inward forms."* That the hyæna can be tamed, and most completely and extensively so, there can be no doubt. " The cadaverous *crocûla*," (the spotted hyæna,) says Barrow, in his Travels in Southern Africa, " has lately been *domesticated* in the Snewberg, where it is now considered one of the best hunters after game, and as faithful and diligent as any of the common sorts of domestic dogs." Bishop Heber saw a gentleman in India, Mr. Traill, who had a hyæna for several years, which followed him about like a dog, and fawned on those with whom he was acquainted ; and the Bishop mentions this as an instance of " how much the poor hyæna is wronged, when he is

* Religio Medici, § 16.

described as untameable." M. F. Cuvier notices an animal of this species that had been taken young at the Cape, and was tamed without difficulty. His keepers had a complete command over his affections. He one day escaped from his cage, and quietly walked into a cottage, where he was retaken without offering any resistance. And yet the rage of this animal was occasionally very great when strangers approached it. The fact is, that the hyæna is exceedingly impatient of confinement ; and feels a constant irritation at the constraint which, in the den of a menagerie, is put upon his natural habits. An individual at Exeter Change, some years ago, was so tame, as to be allowed to walk about the exhibition-room. He was afterwards sold to a person, who permitted him to go out with him into the fields, led by a string. After these indulgences, he became the property of a travelling showman, who kept him constantly in a cage. From that time his ferocity became quite alarming ; he would allow no stranger to approach him ; and he gradually pined away and died. This is one, out of the many examples, of the miseries which we inflict upon animals, through an ignorance of their natural habits : and the same ignorance perpetuates delusions, which even men of talent, like Goldsmith, have adopted ; and which still, in the instance before us, leads many to say, with him, "though taken ever so young, the hyæna cannot be tamed." It is very doubtful whether any animal, however fierce, is incapable of being subjected to man. Mr. Barrow procured in Africa a young leopard, which he says "became instantly tame, and as playful as the domestic kitten." He adds, "most beasts of prey, if taken young, may almost instantly be rendered tame. The fierce lion, or the tiger, is sooner reconciled to a state of domestication than the timid antelope." And this is evidently a most wise arrangement of

Providence, in order that the progress of civilization, with the dominion which man has over the beasts of the field, shall not necessarily exterminate the races of the inferior animals. The fierce buffalo of the African plains, by an intermixture of breeds, and by training, becomes the patient ox of European communities ; the hyæna assists the colonists of the Cape in the business (for to them it is a business) of the chase ; the hunting leopard renders the same service to the natives of Hindostan ; and the Esquimaux dog, as we have already seen, is, in all probability, a wolf in a state of servitude.

The subject of hyænas is intimately connected with a most interesting branch of natural science, which it would be wrong here to pass over—we mean the discovery of large quantities of bones, which must have belonged to this tribe at a very distant period, not only in various parts of the European continent, but in our own island. This fact, connected with the discovery, from time to time, of the bones of the elephant, rhinoceros, hippopotamus, crocodile, and other animals, in considerable quantities, is one of the most extraordinary circumstances in the history of the globe ; and involves a discussion, whether these bones have been brought hither by some great convulsion of nature, such as the deluge, or whether they belonged to animals which were formerly inhabitants of this island.

Casting a general view over the animal and also the vegetable kingdoms, as they at present exist, we find that animals and plants are generally distributed over the earth, in bands or parallel zones, according to the degree of temperature which accords with

their respective natures. On the tops of mountains, where the air is cold, we find the animals and plants which are natives of climates near the poles ; and in the plains, where the air is mild and warm, we encounter species which are somewhat similar to those of the countries near the equator. Tournefort, a celebrated botanist, found at the top of mount Libanus, the plants of Lapland ; a little lower down, those of Sweden ; still lower, those of France ; descending near to the base, those of Italy ; and at the foot of the mountain, those of Asia. In the same manner there are zones of different temperature on the whole earth, ascending from the equator, as from the base of a mountain ; and each plant or animal is fitted by nature for a peculiar existence conformable to the climate in which it is found.* When, therefore, we discover in our own country, and in the northern parts of Europe, the remains of animals which we know are at present the inhabitants of tropical regions, we are naturally led to consider, either that the bones have been swept hither from those regions, or that some great change has taken place in our globe, of which this change in the residence (called by naturalists the *habitat*) of animals is the result. Sir Humphry Davy has shewn that a very high temperature was necessary to the production of crystals, and the waters contained in them ; and it is, therefore, considered by some geologists that the surface of our globe has been gradually cooling, particularly as experiment has determined that the metals and waters met with at the greatest depth to which man has penetrated are at present hotter than the surface of the earth is at the equator. The geologists conclude, therefore, that there was a

* See Virey—Mœurs et Instincts des Animaux, Sixième Leçon.

time when the surface of the earth was too hot for the production of animals and vegetables ; that tropical animals were its first living inhabitants ; and that there was a period when the climate of Europe was adapted to such animals.

Collections of the bones of hyænas have been found, in large quantities, in Franconia, in the Hartz Forest, in Westphalia, in Saxony, in Wirtemberg, in Bavaria, and in France. But the most remarkable discovery was that made by Professor Buckland, of Oxford, in a cave at Kirkdale, or Kirby Moorside, Yorkshire, in the summer of 1822. Bones of a similar nature, some in large and some in smaller quantities, had previously been found in different caverns of this country : at Crawley Rocks, near Swansea ; in the Mendip Hills, at Clifton ; at Wirksworth, in Derbyshire ; at Oreston, near Plymouth ; and in the cave of Paviland, in Glamorganshire.

The cave of Kirkdale is a natural fissure or cavern, extending three hundred feet into the body of the solid limestone rock, and varying from two to five feet in height and breadth. It was discovered accidentally in the progress of working a stone quarry, as the mouth was closed with rubbish. It is situated on the slope of a hill about one hundred feet above the level of a small river. The bottom of the cavern is nearly horizontal, and is entirely covered, to the depth of about a foot, with a sediment of mud. The surface of this mud is, in some parts, crusted over with limestone, formed by droppings from the roof. At the bottom of this mud, the original floor of the cave is covered with teeth and fragments of bone of the following animals :—the hyæna, the elephant, the rhinoceros, the hippopotamus, the horse, the ox, two or three species of deer, the bear, the fox, the water-rat, and several birds

The inference which is drawn by Professor Buckland, respecting these bones, is, that they were accumulated before the deluge in this cave or den, and that the black mud with which they are covered over is the sediment left by the waters of the flood. The effect of this mode of preserving them has been, that the bones are not at all mineralized ; but actually retain nearly the whole of their animal jelly.

The bones are, for the most part, broken and gnawed to pieces, and the teeth lie loose among the fragments of the bones. Amongst these the teeth of hyænas are most abundant, the greater part of which are worn down almost to the stumps, as if with the operation of gnawing bones. Professor Buckland considers that hyænas must have been the antediluvian inhabitants of the den at Kirkdale, and the other animals, whose bones are found, must have been carried in for food by the hyænas—the smaller animals, perhaps, entire ; the large ones piecemeal. Judging from the properties of the remains found in the den, the ordinary food of the hyænas seems to have been oxen, deer, and water-rats ; the bones of the larger animals are more rare ; and the fact of the bones of the hyæna being broken up, equally with the rest, renders it probable that they devoured the dead carcasses of their own species. Many of the bones bear the impress of the canine fangs of the hyæna. Some of the bones and teeth appear to have undergone various stages of decay, by lying in the bottom of the den while it was inhabited ; but little or none has taken place since the introduction of the earthy sediment in which they are imbedded.

The discoverer of these remains contends, from the evidence afforded by the interior of this den, that all these animals, whose bones are there found, lived and died in its vicinity ; and as the bones belong to

the same species which occur in a fossil state in the beds of gravel with which this kingdom abounds, it follows that the period in which they inhabited these regions was that immediately preceding the formation of these gravel beds by some transient and universal inundation, which has left traces of its ravages over the surface of the whole globe. Professor Buckland concludes, that the accuracy of the Mosaic records is thus satisfactorily established in all essential particulars.

The Fossil (or extinct) Hyæna, according to Cuvier, was about a third larger than the striped species; with the muzzle, in proportion, much shorter. The teeth, as to form, resembled those of the spotted species, but they were considerably larger. The powers of the animal, particularly in its faculty of gnawing bones, were, therefore, greater than those of the existing races.

The division of carnivorous quadrupeds, called Hyæna, is scientifically distinguished by having no small or tuberculous teeth behind the carnivorous. Its teeth are thus arranged :—

Incisors $\frac{6}{6}$, Canine $\frac{1-1}{1-1}$, Molar $\frac{5-5}{4-4}$, Total 34.

These teeth are particularly adapted for breaking bones, from their thickness.

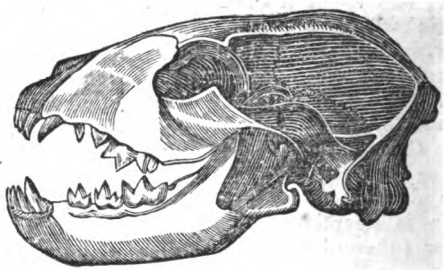
The head is of a middle size, with an elevated forehead; the jaws shorter than those of the dogs, and longer than those of the cats; the tongue rough; the eyes large, with longitudinal pupils; the ears long, pricked, easily movable, very open, and directed forwards; the nostrils resemble those of the dogs.

They are *digitigrade*, or walk on their toes; their

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feet are terminated with four toes, of which the claws, which are very strong, are not retractile ; the fore-legs appear more elevated than the hind. Beneath the tail is a glandulous pouch.

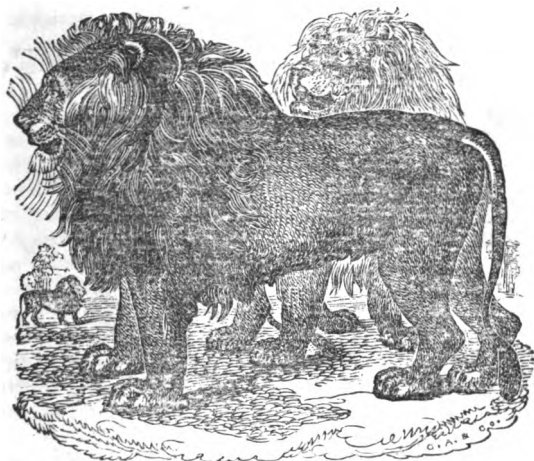
Naturalists have not ascertained the period of gestation, and other circumstances, such as the number of young at a litter, connected with the re-production of the hyæna ; nor do we find their average duration of life stated by any writer of authority.



Skull of the Hyæna crocuta.

CHAPTER VI.

THE LION.



Felis leo—LINNÆUS. *Le Lion*—BUFFON.

THE most interesting object of a menagerie is probably its lion ; and there are few persons who are not familiar with the general appearance of this most powerful animal. To behold, in perfect security, that creature which is the terror of all travellers in the regions where he abounds ; which is said to be able to bear off a buffalo on his back, and crush the skull of a horse by a single stroke of his paw—this is certainly gratifying to a reasonable curiosity. The appear-

ance of dignified self-possession which the lion displays when at rest ; his general indifference to slight provocations ; his haughty growl when he is roused by the importunities of his keepers or the excitement of the multitude ; his impatient roar when he is expecting his daily meal, and his frightful avidity when he is at length enabled to seize upon his allotted portion ;—these are traits of his character in confinement which are familiar to almost every one.

The lion, whose portrait is here presented, is a very fine animal in the collection of Mr. Cross, at Exeter Change. He is an average specimen of the African species. The ordinary length of the lion, from the end of the muzzle to the insertion of the tail, is about six feet, and the height about 3 feet. The uniformity of his colour is well known, being of a pale tawny above, and somewhat lighter beneath ; and his enormous mane is a characteristic which no one can forget. The long tuft of rather black hair, which terminates his tail, may not have been so generally observed ; but this is peculiar to his species. The pupils of his eyes are round. The lioness differs from the lion, in the want of a mane ; in the more slender proportions of her body ; and in the comparative smallness of her head.

To understand the natural habits of the lion, we must not be satisfied to observe him in menageries, where, ordinarily, his disposition is soon subjected by that fear of man which constitutes a feature of his character. We may, indeed, observe the form of this magnificent beast ; and may occasionally be delighted by his gentleness and entire submission to the commands of his capricious masters. But we must compare our own impressions of his character with the accounts of intelligent travellers ; we must examine the peculiar structure of his body, as developed by skilful and patient anatomists ; and we may then

return to view the lion of the showman with correct notions of his physical powers, and with unromantic estimates of his moral qualities. It has been too much the fashion with writers on natural history to have their antipathies and their partialities towards the ferocious quadrupeds ; and thus, as the hyæna has been represented as combining every disgusting and offensive habit, so has the lion been painted as possessed of the most noble and magnanimous affections. " The King of the Beasts " is a name applied to him, with which every one is familiar. In physical strength he is indeed unequalled. He is ordained by nature to live on animal food, and fitted for the destruction of animal life by the most tremendous machinery that could be organized for such a purpose, regulated by a cunning peculiar to his species. When we investigate the modes in which he employs these powers, we may perhaps be inclined to leave the stories of his generosity to the poets and romance-writers, who (as well as the authors of more sober relations) have generally been too much inclined to invest physical force with those attributes of real courage and magnanimity which are not always found in association with it.

To comprehend the habits of the lion, we must follow with attention the narratives of those travellers who have seen him in his native haunts. From the Cape of Good Hope, for instance, an adventurous naturalist sets forth to explore the immense plains of the interior of Southern Africa. His journey is performed partly on foot, and partly in a waggon drawn by eight or ten oxen. His escort consists of a few sturdy Hottentots, accustomed to the country into which he desires to penetrate—excellent marksmen—and expert in following up the track of every wild or ferocious beast. Further and further he rolls on from the abodes of civilization, and soon finds himself sur-

rounded by tribes of Bushmen or Caffres, who live in a rude but contented manner, depending for subsistence upon their flocks and upon the chase, and knowing very few of those agricultural arts by which their arid plains might be partially redeemed from sterility. At length he reaches those parts where ferocious animals abound; and where the lion, particularly, is an object of dread. Having passed the borders of European colonization, his fears are first excited by viewing the footmarks of the lion. His Hottentot guides have their tales of terror ready for the traveller, who beholds for the first time the impress of those tremendous feet upon the sands of the plain which he is to cross; and they are ready to show their skill in tracking, if necessary, the prowling savage to his lair. So nice is this faculty in a Hottentot, of tracking footsteps, that Mr. Barrow tells us he will distinguish the wolf from the domestic dog by the largeness of the ball of the foot and the comparative smallness of the toes; and will single out amongst a thousand any of his companions' feet. This is an effect of education—an ability produced by the constant exercise of a peculiar faculty, which has been acquired by early training. It is the same ability by which a skilful shepherd is enabled to know every individual sheep belonging to his flock; and its exercise in each case proceeds from that habit of attention which enables the human mind to attain excellence in every pursuit. But even a Hottentot does not discover the footsteps of a lion without fear. Mr. Burchell, with his man Gert, was in search of a party who had killed a hippopotamus. They were hurrying on through a willow-grove, when the Hottentot suddenly stopped, and cried out with some emotion, "Look here, Sir!" Mr. Burchell continues:—"I turned my eyes downwards, and saw the recent footmarks of a lion which had been to drink at

the river, apparently not more than an hour before. This gave a check to our dialogue on the hippopotamus ; and, in a lower and graver tone of voice, he talked now only of lions, and the danger of being alone in a place so covered with wood." That immediate danger passed away, but new fears of the same nature were constantly presenting themselves. Mr. Barrow says :—" It seems to be a fact well established, that the lion prefers the flesh of a Hottentot to any other creature ;" and the same writer states, in another place, that this powerful and treacherous animal seldom makes an open attack, but, like the rest of the feline genus, lies in ambush till it can conveniently spring upon its prey. The best security which man and beast have against the attacks of the lion, is found in his indolence : he requires the strong excitement of hunger to be roused to a pursuit ; but when he is roused, his vaunted magnanimity is no protection, even for a sleeping foe, as the poets have pretended.

We must, however, follow our African traveller a little further in his career of observation. A lowering evening comes on ; thunder clouds collect in every quarter ; and the night becomes extremely dark. The most vivid flashes of lightning are intermingled with the heaviest torrents of rain. The cattle are restless ; and the Hottentots are prevented making their evening fire for the cookery of their supper, and for defence against the beasts of prey. On such nights as these the lion is particularly active. The fury of the elements appears to rouse him from his ordinary torpidity. He advances upon his prey with much less than his usual caution ; and he is not at once driven off by the barking of dogs and the sound of muskets. The oxen of the caravan, who appear to scent the distant approach of their terrible enemy, struggle to break loose from their

waggons to escape their danger by instant flight—an escape which would prove their destruction. It is only by keeping with man that they are safe. The repeated discharge of fire-arms has the remarkable effect not only of keeping off the lion, but of abating the restlessness of the cattle. They appear to feel that their enemy will retreat when he hears this demonstration of the powers of the only creature that is enabled, by superior reason, to cope with him. Nights of such harassing watchfulness are not unfrequently experienced by the African traveller.*

It is no uncommon thing in the plains of southern Africa to encounter innumerable herds of wild animals, quietly grazing like tame cattle. Wherever the quagga (a species of wild ass,) the sprinkbok and the hartebeest (the Dutch names for two varieties of the antelope) are found, there will be lions, numerous in proportion, for the destruction of their prey. Of course those formidable beasts can only exist where the means of their support are to be procured. They are destined to live on animal food; and, therefore, where there are flocks and herds, whether in a wild or a domestic state, there they will be also. Mr. Campbell states that the quagga migrates in winter from the tropics to the vicinity of the Malaleveen river; which, though farther to the south, is reported to be considerably warmer than within the tropics, when the sun has retired to the northern hemisphere. He saw bands of two or three hundred quaggas, all travelling southward. They are followed by lions, who slaughter them night by night; and what the lions leave of the carcasses of these unfortunate animals, is devoured by the vultures and the Bushmen. Even the buffalo, whose forehead, when he is of mature age, is completely covered with

* See Burchell's Travels, vol. i. chapter xviii.

a rugged mass of horn as hard as a rock, the fibres of whose muscles are like so many bundles of cords, and whose hide is little inferior in strength and thickness to that of the rhinoceros—even he is not safe from the attacks of the lion. “He lies waiting for him in ambush till a convenient opportunity offers for springing upon the buffalo, and fixing his fangs in his throat ; then sticking his paw into the animal’s face, he twists round the head and pins him to the ground by the horns, holding him in that situation till he expires from loss of blood.”*

It has been often stated by travellers in Africa, and the statement has been repeated by Mr. Pringle, upon the authority of a chief of the Bechuanas, that the lion, after he has made his fatal spring upon the giraffe when he comes to drink at the pools, is carried away for miles, fixed on the neck of that fleet and powerful creature, before his victim sinks under him.

To the traveller in Africa the lion is formidable not at night only ; he lies in his path, and is with difficulty disturbed to allow a passage for his waggons and cattle, even when the sun is shining with its utmost brilliancy : or he is roused from some bushy place on the road-side, by the indefatigable dogs which always accompany a caravan. Mr. Burchell has described, with great spirit, an encounter of this nature :—

“The day was exceedingly pleasant, and not a cloud was to be seen. For a mile or two we travelled along the banks of the river, which in this part abounded in tall mat-rushes. The dogs seemed much to enjoy prowling about and examining every bushy place, and at last met with some object among the rushes which caused them to set up a most vehement and determined barking. We explored the

* Barrow, vol. i.

spot with caution, as we suspected, from the peculiar tone of their bark, that it was what it proved to be, lions. Having encouraged the dogs to drive them out, a task which they performed with great willingness, we had a full view of an enormous black-maned lion, and a lioness. The latter was seen only for a minute, as she made her escape up the river, under concealment of the rushes ; but *the lion* came steadily forward and stood still to look at us. At this moment we felt our situation not free from danger, as the animal seemed preparing to spring upon us, and we were standing on the bank at the distance of only a few yards from him, most of us being on foot and unarmed, without any visible possibility of escaping. I had given up my horse to the hunters, and was on foot myself, but there was no time for fear, and it was useless to attempt avoiding him. I stood well upon my guard, holding my pistols in my hand, with my finger upon the trigger, and those who had muskets kept themselves prepared in the same manner. But at this instant the dogs boldly flew in between us and the lion, and surrounding him, kept him at bay by their violent and resolute barking. The courage of these faithful animals was most admirable ; they advanced up to the side of the huge beast, and stood making the greatest clamour in his face, without the least appearance of fear. The lion, conscious of his strength, remained unmoved at their noisy attempts, and kept his head turped towards us. At one moment, the dogs perceiving his eyes thus engaged, had advanced close to his feet, and seemed as if they would actually seize hold of him, but they paid dearly for their imprudence, for, without discomposing the majestic and steady attitude in which he stood fixed, he merely moved his paw, and at the next instant I beheld two lying dead. In doing this, he made so little exertion that it was scarcely perceptible by what

means they had been killed. Of the time which we had gained by the interference of the dogs, not a moment was lost ; we fired upon him ; one of the balls went through his side just between the short ribs, and the blood immediately began to flow, but the animal still remained standing in the same position. We had now no doubt that he would spring upon us ; every gun was instantly re-loaded ; but happily we were mistaken, and were not sorry to see him move quietly away ; though I had hoped in a few minutes to have been enabled to take hold of his paw without danger.

“ This was considered, by our party, to be a lion of the largest size, and seemed, as I measured him by comparison with the dogs, to be, though less bulky, as large as an ox. He was certainly as long in body, though lower in stature ; and his copious mane gave him a truly formidable appearance. He was of that variety which the Hottentots and boors distinguish by the name of the *black lion*, on account of the blacker colour of the mane, and which is said to be always larger and more dangerous than the other, which they call the *pale lion* (vaal leeuw.) Of the courage of a lion I have no very high opinion, but of his majestic air and movements, as exhibited by this animal, while at liberty in his native plains, I can bear testimony. Notwithstanding the pain of a wound, of which he must soon afterwards have died, he moved slowly away with a stately and measured step.

“ At the time when men first adopted the lion as the emblem of courage, it would seem that they regarded great size and strength as indicating it ; but they were greatly mistaken in the character they have given to this indolent, skulking animal, and have overlooked a much better example of true courage, and of other virtues also, in the bold and faithful dog.”

Mr. Burchell, as we may learn from the foregoing extract, is not inclined to maintain the courage of the African lion, whatever impression he may have had of his extraordinary physical strength. The natural habits of the lion are certainly those of treachery ; he is not disposed, under any circumstances, to meet his prey face to face ; and he is particularly unwilling to encounter man when he crosses him in the full blaze of day. The inability of his eye (in common with most others of the cat tribe) to bear a strong light, may account in a great degree for this circumstance, which has probably brought upon him much of the reproach of being a skulking, cowardly animal. But we apprehend that there were periods in the history of African colonization when the lion was of a bolder nature in his encounters with mankind ; that the dread of fire-arms has become, in some degree, a habit of the species ; and that he has sagacity, or hereditary instinct, to know that a flash and a loud sound is often followed by a speedy death or a grievous injury. One of the most remarkable examples of the audacity of a lion is to be found in the Journal of a Settler at the Cape, more than a century ago. The first settlement of the Dutch at Cape Town was in the year 1652 : the site which they selected was on the southern edge of Table Bay, and the number of the settlers amounted only to a hundred persons. In half a century the colonists had greatly increased, and had driven the native Hot-tentots a considerable distance into the interior, amongst dry and barren tracts. This is the ordinary course of colonization. In 1705, the Landdrost,* Jos. Sterreberg Kupt, proceeded on a journey into the country, to procure some young oxen for the Dutch East India Company ;—and he has left a

* A local magistrate.

very interesting Journal of his expedition, which has been translated from the original Dutch, and published by the Rev. Dr. Philip, in his truly valuable *Researches in South Africa*. The account which the Landdrost gives of the adventure of his company with a lion, is altogether so curious, that we extract it without abridgement :—

“ Our wagons, which were obliged to take a circuitous route, arrived at last, and we pitched our tent a musket-shot from the kraal ; and after having arranged everything, went to rest, but were soon disturbed : for about midnight the cattle and horses, which were standing between the wagons, began to start and run, and one of the drivers to shout, on which every one ran out of the tent with his gun. About thirty paces from the tent stood a lion, which, on seeing us, walked very deliberately about thirty paces farther, behind a small thorn-bush, carrying something with him, which I took to be a young ox. We fired more than sixty shots at that bush, and pierced it stoutly, without perceiving any movement. The southeast wind blew strong, the sky was clear, and the moon shone very bright, so that we could perceive everything at that distance. After the cattle had been quieted again, and I had looked over everything, I missed the sentry from before the tent, Jan Smit, from Antwerp, belonging to the Groene Kloof. We called as loudly as possible, but in vain,—nobody answered ; from which I concluded that the lion had carried him off. Three or four men then advanced very cautiously to the bush, which stood right opposite the door of the tent, to see if they could discover anything of the man, but returned helter-skelter, for the lion, who was there still, rose up, and began to roar. They found there the musket of the sentry, which was cocked, and also his cap and shoes.

“ We fired again about a hundred shots at the bush, (which was sixty paces from the tent and only thirty paces from the waggons, and at which we were able to point as at a target,) without perceiving any thing of the lion, from which we concluded that he was killed or had run away. This induced the marksman, Jan Stamansz, to go and see if he was there still or not, taking with him a firebrand. But as soon as he approached the bush the lion roared terribly and leapt at him ; on which he threw the firebrand at him, and the other people having fired about ten shots, he retired directly to his former place behind that bush.

“ The firebrand which he had thrown at the lion had fallen in the midst of the bush, and, favoured by the strong south-east wind, it began to burn with a great flame, so that we could see very clearly into and through it. We continued our firing into it ; the night passed away, and the day began to break, which animated every one to aim at the lion, because he could not go from thence without exposing himself entirely, as the bush stood directly against a steep kloof. Seven men, posted on the farthest waggons, watched him to take aim at him if he should come out.

“ At last, before it became quite light, he walked up the hill with the man in his mouth, when about forty shots were fired at him without hitting him, although some were very near. Every time this happened he turned round towards the tent, and came roaring towards us ; and I am of opinion, that if he had been hit, he would have rushed on the people and the tent.

“ When it became broad day-light, we perceived, by the blood and a piece of the clothes of the man, that the lion had taken him away and carried him with him. We also found, behind the bush, the

place where the lion had been keeping the man, and it appeared impossible that no ball should have hit him, as we found in that place several balls beaten flat. We concluded that he was wounded, and not far from this. The people therefore requested permission to go in search of the man's corpse in order to bury it, supposing that, by our continual firing, the lion would not have had time to devour much of it. I gave permission to some, on condition that they should take a good party of armed Hottentots with them, and made them promise that they would not run into danger, but keep a good look-out, and be circumspect. On this seven of them, assisted by forty-three armed Hottentots, followed the track, and found the lion about half a league farther on, lying behind a little bush. On the shout of the Hottentots, he sprang up and ran away, on which they all pursued him. At last the beast turned round, and rushed, roaring terribly, amongst the crowd. The people, fatigued and out of breath with their running, fired and missed him, on which he made directly towards them. The captain, or chief head of the kraal, here did a brave act in aid of two of the people whom the lion attacked. The gun of one of them missed fire, and the other missed his aim, on which the captain threw himself between the lion and the people so close, that the lion struck his claws into the caross (mantle) of the Hottentot. But he was too agile for him, doffed his caross, and stabbed him with an assagai.* Instantly the other Hottentots hastened on, and adorned him with their assagais, so that he looked like a porcupine. Notwithstanding this he did not leave off roaring and leaping, and

* The generous bravery of this man towards strangers offers a striking refutation of the calumnies against the Hottentot race, which the Dutch colonists employed to defend their cruel and treacherous persecutions.

bit off some of the assagais, till the marksman Jan Stamansz fired a ball into his eye, which made him turn over, and he was then shot dead by the other people. He was a tremendously large beast, and had but a short time before carried off a Hottentot from the kraal and devoured him."

In the Chapter on the "Objects of Menageries," we have noticed the dulness of the sense of hearing in the lion—the difficulty of awakening him—and the want of presence of mind which he displays if he be so awakened. It is this peculiarity which enables the Bushmen of Africa to keep the country tolerably clear of lions, without encountering any great danger in their exertions. Dr. Philip has well described it:—"The wolf and the tiger generally retire to the caverns and the ravines of the mountains, but the lion is most usually found in the open plain, and in the neighbourhood of the flocks of antelopes, which invariably seek the open country, and which manifest a kind of instinctive aversion to places in which their powerful adversary may spring upon them suddenly and unexpectedly. It has been remarked of the lion, by the Bushmen, that he generally kills and devours his prey in the morning at sunrise, or at sunset. On this account, when they intend to kill lions, they generally notice where the spring-bucks are grazing at the rising of the sun; and by observing, at the same time, if they appear frightened and run off, they conclude that they have been attacked by the lion. Marking accurately the spot where the alarm took place, about eleven o'clock in the day, when the sun is powerful, and the enemy they seek is supposed to be fast asleep, they carefully examine the ground, and finding him in a state of unguarded security, they lodge a poisoned arrow in his breast. The moment the lion is thus struck, he springs from his lair, and bounds off as helpless

as the stricken deer. The work is done ; the arrow of death has pierced his heart, without even breaking the slumbers of the lioness which may have been lying beside him ; and the Bushman knows where, in the course of a few hours, or even less time, he will find him dead, or in the agonies of death.”*

We have thus traced the African lion as he appears to the traveller in solitary districts of that immense continent, and where the presence of man may, in some sort, be considered an intrusion upon his legitimate empire. But the lion does not confine his range to the desert plains, trusting for a supply of food to the herds of antelopes and wild asses which live far away from the abodes of mankind. In the country of the Namaaquas, where there are numbers of Dutch settlers, he is often found prowling around the herds of the colonists. Mr Barrow tells an interesting anecdote of the escape of a Hottentot from a lion, which pursued him from a pool of water where he was driving his cattle to drink, to an aloe tree, in which the man remained for twenty-four hours, while the lion laid himself down at the foot. The perseverance of the beast was at length worn out by his desire to drink ; and in his temporary absence to satisfy his thirst, the Hottentot fled to his home about a mile off. The lion, however, returned to the aloe tree, and tracked the man within three hundred paces of his house.

Mr. Pringle, who had extraordinary opportunities of observing the habits of the half-civilized natives of Southern Africa, and of becoming acquainted with the characteristics of the wild beasts with which that part of the world abounds, has given us a very good description of a lion-hunt, in which he and several of his countrymen, all somewhat inexperienced in such

* Philip's South Africa, vol. ii.

adventures, was engaged. Mr. Pringle was a settler on the eastern frontier of the Cape Colony ; and in 1822 was residing on his farm, or "location," at Bavian's River. We should deprive his account of a lion-hunt of its interest, if we attempted to give it in any other than his own words :—

"One night a lion, that had previously purloined a few sheep out of my kraal, came down and killed my riding horse, about a hundred yards from the door of my cabin. Knowing that the lion, when he does not carry off his prey, usually conceals himself in the vicinity, and is very apt to be dangerous by prowling about the place in search of more game, I resolved to have him destroyed or dislodged without delay. I therefore sent a messenger round the location, to invite all who were willing to assist in the enterprise, to repair to the place of rendezvous as speedily as possible. In an hour every man of the party (with the exception of two pluckless fellows who were kept at home by the women,) appeared ready mounted and armed. We were also reinforced by about a dozen of the 'Bastaard' or Mulatto Hottentots, who resided at that time upon our territory as tenants or herdsman, —an active and enterprising, though rather an unsteady, race of men. Our friends the Tarka boors, many of whom are excellent lion-hunters, were all too far distant to assist us—our nearest *neighbours* residing at least twenty miles from the location. We were, therefore, on account of our own inexperience, obliged to make our Hottentots the leaders of the chase.

"The first point was to track the lion to his covert. This was effected by a few of the Hottentots on foot. Commencing from the spot where the horse was killed, they followed the *spoor** through grass and gravel and brushwood, with astonishing ease and dexterity, where

* The Hottentot name for a footmark.

an inexperienced eye could discern neither footprint nor mark of any kind,—until, at length, we fairly tracked him into a large *bosch*, or straggling thicket of brushwood and evergreens, about a mile distant.

“The next object was to drive him out of this retreat, in order to attack him in close phalanx, and with more safety and effect. The approved mode in such cases is to torment him with dogs till he abandons his covert, and stands at bay in the open plain. The whole band of hunters then march forward together, and fire deliberately, one by one. If he does not speedily fall, but grows angry and turns upon his enemies, they must then stand close in a circle, and turn their horses rear-outward ; some holding them fast by the bridles, while the others kneel to take a steady aim at the lion as he approaches, sometimes up to the very horses’ heels—couching every now and then, as if to measure the distance and strength of his enemies. This is the moment to shoot him fairly in the forehead, or some other mortal part. If they continue to wound him ineffectually till he waxes furious and desperate ; or if the horses, startled by his terrific roar, grow frantic with terror, and burst loose, the business becomes rather serious, and may end in mischief—especially if all the party are not men of courage, coolness, and experience. The frontier Boors are, however, generally such excellent marksmen, and withal so cool and deliberate, that they seldom fail to shoot him dead as soon as they get within a fair distance.

“In the present instance, we did not manage matters quite so scientifically. The Bastaards, after recounting to us all these and other sage laws of lion-hunting, were themselves the first to depart from them. Finding that the few indifferent hounds we had made little impression on the enemy, they divided themselves into two or three parties, and rode round the jungle, firing into the spot where the dogs were barking round him, but

without effect. At length, after some hours spent in thus beating about the bush, the Scottish blood of some of my countrymen began to get impatient ; and three of them announced their determination to march in and beard the lion in his den, provided three of the Bastards (who were superior marksmen) would support them, and follow up their fire, should the enemy venture to give battle. Accordingly, in they went (in spite of the warnings of some more prudent men among us,) to within fifteen or twenty paces of the spot where the animal lay concealed. He was couched among the roots of a large evergreen bush, with a small space of open ground on one side of it ; and they fancied, on approaching, that they saw him distinctly, lying glaring at them from under the foliage. Charging the Bastards to stand firm and level fair should *they* miss, the Scottish champions let fly together, and struck—not the lion, as it afterwards proved, but a great block of red stone, beyond which he was actually lying. Whether any of the shot grazed him is uncertain, but, with no other warning than a furious growl, forth he bolted from the bush. The pusillanimous Bastards, in place of now pouring in their volley upon him, instantly turned, and fled helter-skelter, leaving him to do his pleasure upon the defenceless Scots—who, with empty guns, were tumbling over each other, in their hurry to escape the clutch of the rampant savage. In a twinkling he was upon them, and with one stroke of his paw dashed the nearest to the ground. The scene was terrific ! There stood the lion with his foot upon his prostrate foe, looking round in conscious power and pride upon the bands of his assailants—and with a port the most noble and imposing that can be conceived. It was the most magnificent thing I ever witnessed. The danger of our friends, however, rendered it at the moment too terrible to enjoy either the grand or the ludicrous part of the

picture. We expected every instant to see one or more of them torn in pieces ; nor, though the rest of the party were standing within fifty paces with their guns cocked and levelled, durst we fire for their assistance. One was lying under the lion's paw, and the others scrambling towards us in such a way as to intercept our aim at him. All this passed far more rapidly than I have described it. But luckily the lion, after steadily surveying us for a few seconds, seemed willing to be quits with us on fair terms ; and with a fortunate forbearance, (for which he met but an ungrateful recompense,) turned calmly away, and driving the snarling dogs like rats from among his heels, bounded over the adjoining thicket like a cat over a footstool, clearing brakes and bushes twelve or fifteen feet high as readily as if they had been tufts of grass, and, abandoning the jungle, retreated towards the mountains.

“ After ascertaining the state of our rescued comrade, (who fortunately had sustained no other injury than a slight scratch on the back, and a severe bruise in the ribs, from the force with which the animal had dashed him to the ground,) we renewed the chase with Hottentots and hounds in full cry. In a short time we again came up with the enemy, and found him standing at bay under an old mimosa tree, by the side of a mountain-stream, which we had distinguished by the name of Douglas Water. The dogs were barking round, but afraid to approach him, for he was now beginning to growl fiercely, and to brandish his tail in a manner that showed he was meditating mischief. The Hottentots, by taking a circuit between him and the mountain, crossed the stream and took a position on the top of a precipice overlooking the spot where he stood. Another party of us occupied a position on the other side of the glen ; and placing the poor fellow thus between two fires, which confused his attention and prevented his

retreat, we kept battering away at him, till he fell, unable again to grapple with us, pierced with many wounds.

“ He proved to be a full grown lion of the yellow variety, about five or six years of age. He measured nearly twelve feet from the nose to the tip of the tail. His fore leg below the knee was so thick that I could not span it with both hands ; and his neck, breast, and limbs appeared, when the skin was taken off, a complete congeries of sinews.”*

We have thus contemplated the lion, as described by intelligent travellers and close observers ; and we have seen the urgent necessity by which he is driven to the destruction of animal life, and the terrible powers by which he accomplishes that destruction. As the objects of his appetite, and the means which he employs for its gratification, are in themselves upon an ample scale, and thus fill the mind with an idea of great suffering inflicted by equal ferocity, so do we feel an instinctive shuddering in reading of herds put to flight—of some one trembling victim borne off to be torn to pieces by the beast in his lair—of man even suddenly deprived of existence by his desperate onset. Yet the same power and the same ferocity are constantly displayed before our eyes, though upon a smaller scale. The cat which springs upon the mouse is as formidable in its ability to injure, within its peculiar range, as the lion which carries away the antelope from his companions. The same instincts guide each to the same destruction of the lives of others of the animal creation. Throughout all nature we see the like necessities producing the like effects ; and those necessities have been considered to form part of the general design, which has thus established a sort of counterpoise to the power and preponderance of any

* Notes to Pringle's *Ephemerides*.

one individual condition of existence. At any rate, we can have no doubt, from an examination of the physical structure of carnivorous animals, that in the destruction of life they fulfil the laws of their nature ; and, however imperfectly we may understand the ends of those laws, we cannot be insensible to the perfection of the means by which they are carried into execution.

The invariable analogy between the teeth and the digestive organs of quadrupeds forms one of the most beautiful studies of Comparative Anatomy. The teeth that are made for tearing and cutting flesh, and fitted into jaws of great strength, incapable of lateral motion, but closing together like a pair of shears, are always accompanied with a stomach of less complicated structure than that which is fitted for the more difficult digestion of vegetable substances, particularly of grass, the most indigestible of all. In quadrupeds which devour their prey before absolute death has taken place—while the flesh is not yet set and the blood still warm—the stomach is of the most simple structure. In such animals, also, the intestines are much shorter than in those which feed entirely or partly on vegetables. For instance, in the lion those intestinal parts which are called by anatomists the *colon* and *cæcum*, are three feet nine inches long ; in the goat, a much smaller animal, they are twenty feet nine inches.* This simple stomach, and these short intestines, are given to animals that are carnivorous, because the gastric juice of the stomach is sufficient for the purpose of digestion, without any more complicated process. There is no doubt that, by habit, a carnivorous quadruped, a domestic cat for instance, may be brought to eat vegetable food ; but an invariable preference will be given by it to flesh. Upon the same principle of natural preference, a young hawk, which is fitted by the construction of

* Home, vol. i. p. 469.

its stomach for eating flesh, will *cast* (as the falconers term it)—that is, will bring up the contents of its stomach—if two or three oats are mingled with its meat. We see, therefore, that if the teeth of a lion, or a panther, were able to bruise grass, as those of the ruminating animals are, their stomachs would be incapable of digesting it ; just in the same way that a sheep or a cow, if its teeth could tear flesh, would be rendered sick by eating that substance. To follow up the same mode of reasoning, the structure of the stomach of the lion being simpler than that of the hyæna, we have to inquire what difference this circumstance produces in their habits ; and we find the difference to be, that the one prefers to seize a living body for its food—the other is attracted by a putrid carcase. In the conformation of each animal we have principally to seek for the reason of its actions.

With these facts before us, we cannot doubt that, in the natural state of the lion, the tiger, the leopard, and other quadrupeds of the cat tribe, animal food is not only necessary to their existence, but that their principal faculties must be directed to the object of capturing that food. It would be contrary to the evidence we have constantly before us of the completeness with which Nature works, to imagine that this ruling desire should be constantly harassing the beast of prey, and that he should be provided with imperfect means for its gratification. An examination of the structure of the lion, with reference to the admirable mechanism by which he is enabled to preserve his existence, cannot fail to lead the mind to a conviction of the entire manifestation of Design in this, as in every other work of the creation.

The lion, as we have seen, principally lives in the plains, and is always found where there are large herds of wild antelopes and quaggas feeding together, in that fellowship which is characteristic of each

species. To all these animals he is an object of unceasing dread. It is supposed by the agitation which oxen display when a lion is near them that they can scent him at a considerable distance. Whatever may be his physical strength, therefore, and we know that it is prodigious, it is evident he could not accomplish his purposes by strength alone. The instinctive fear of the creatures upon which he preys, would be constantly called into action by their keen sight and acute scent ; and they would remove to some distant part before the destroyer could reach them. The lion, too, as well as the tiger, and others of the same species, seldom runs. He either walks, or creeps, or, for a short distance, advances rapidly by great bounds.* It is evident, therefore, that he must seize his prey by stealth ; that he is not fitted for an open attack ; and that his character is necessarily that of great power united to considerable wariness in its exercise.

Every one, almost, is familiar with the roar of the lion. It is a sound of terror, and produces an appalling effect. It is said by travellers that it sometimes resembles the sound which is heard at the moment of an earthquake ; and that he produces this extraordinary effect by laying his head upon the ground, and uttering a half-stifled growl, by which means the noise is conveyed along the earth.† The instant this roar is heard by the animals who are reposing in the plains, they start up with alarm ; they fly in all directions ; they rush into the very danger which they seek to avoid. This fearful sound, which the lion utters, is produced by the great comparative size of the larynx,‡ the prin-

* Wilson's Illustrations of Zoology.

† Burchell, vol. ii.

‡ That part of the throat which forms the upper part of the *trachea* (wind-pipe.) It is composed of several cartilaginous rings, which are moved by powerful muscles.

cipal organ of voice in all animals.* He utters it to excite that fear which is necessary to his easy selection of an individual victim.

The lion, as well as all of the cat tribe, takes his prey at night ; and it is necessary, therefore, that he should have peculiar organs of vision. In all those animals which seek their food in the dark, the eye is usually of a large size, to admit a great number of rays ; and that part which is called the *choroides* reflects, instead of absorbing, the light. The power of seeing in the dark, which the cat tribe possesses, has always appeared a subject of mystery ; and it is natural that it should be so, for man himself sees with more difficulty in the dark than any other animal : he has a compensation in his ability to produce artificial light. There were formerly two opinions on the subject of the cat's eye : the one that the external light only is reflected ; the other that light was generated in the eye itself. Professor Bohn, of Leipsic, made experiments, however, which proved that, when the external light is wholly excluded, none can be seen in the cat's eye ; and it is now established that the illumination is wholly produced by the external rays of light, which, after being concentrated by those parts which are called the *cornea* and the *crystalline lens*, are reflected in a brilliant concave mirror at the bottom of the eye, called the *tapetum*.† This effect may be constantly seen in the domestic cat. In the strong light of day, the *iris* is contracted, so that a very small quantity of light is admitted to this mirror ; but in the twilight the *iris* opens, and then the mirror being completely exposed, the eye glares in

* "The size of the larynx is proportionate to the strength of the sounds which the animals utter. The absolute size of the larynx of the whale and the elephant is the largest, but relatively the larynx of the lion has a still greater circumference."—Notes to Blumenbach's Comp. Anat., by Lawrence and Coulson, 1827.

† See Home, vol. iii. p. 243.

the manner with which we are all familiar. The construction, therefore, of the eye of the cat tribe enables them to collect in one focus whatever rays of light there may be: and few places are so dark but that some light may be found—as we know, when we have gone into a cellar, where the darkness at first appears impenetrable, but where, even with our differently-constructed organ of vision, we soon distinguish objects without difficulty. This peculiar eye, therefore, is necessary to the lion to perceive his prey; and he creeps towards it with a certainty which nothing but this distinct nocturnal vision could give.

Every one must have observed what are usually called the *whiskers* on a cat's upper lip. The use of these in a state of nature is very important. They are organs of touch. They are attached to a bed of close glands under the skin; and each of these long and stiff hairs is connected with the nerves of the lip.* The slightest contact of these whiskers with any surrounding object is thus felt most distinctly by the animal, although the hairs are themselves insensible. They stand out on each side, in the lion, as well as in the common cat, so that, from point to point, they are equal to the width of the animal's body. If we imagine, therefore, a lion stealing through a covert of wood in an imperfect light, we shall at once see the use of these long hairs. They indicate to him, through the nicest feeling, any obstacle which may present itself to the passage of his body; they prevent the rustle of boughs and leaves, which would give warning to his prey if he were to attempt to pass through too close a bush;—and thus, in conjunction with the soft cushions of his feet, and the fur upon which he treads (the retractile claws never coming in contact with the ground,) they enable him to move towards his victim with a stillness greater even than

* Cuvier, Anat. Comp. Leçon. XIV.—Art. VI.

that of the snake, who creeps along the grass, and is not perceived till he has coiled round his prey.

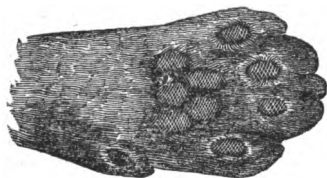
We must carry our minds to the point when all these preliminary arrangements for bringing the lion within reach of some devoted animal have been successful. The quagga is quietly listening for the sound of his scattered companions. At some twenty feet from him, is the lion crouching and preparing for the spring. The flexibility of his vertebral column allows him to throw himself upon his prey with prodigious swiftness, by the exercise of muscular power; and this power is so great, that the compression of the muscles upon the principal artery of the shoulder would produce a derangement of the animal's system, if that circumstance were not provided against by a most singular and beautiful expedient. The *os humeri* (the bone of the shoulder) is perforated in the lion tribe, to give a more direct course to the brachial artery, that it may not be compressed, by the muscles, when called into extraordinary action by the violence with which their prey is seized.* The muscles of the lion's fore-leg are unusually firm, and so are those of the thigh of a fighting cock.† This is a peculiar character of the muscles of animals whose habits are those of combat or of catching prey. Flexible as the joints of the larger species of the cat tribe are, they are knit together by the remarkable strength of the muscles; and no other provision would at once produce that pliancy and firmness which particularly characterise the limbs of the lion in the act of seizing his victim, and give both a grace and a power to all his ordinary movements.

The weight of the lion's body, as compared with his size, is very remarkable; and this is produced by the extraordinary density of his muscles, and the compactness of his principal bones. The force there-

* Home, vol. i. p. 76.

† Home, vol. i. p. 34.

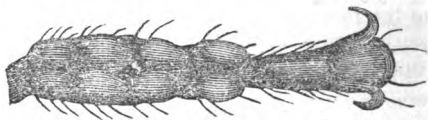
fore, with which he must alight after a bound of fifteen or twenty feet must be obvious. The compensation against the jar produced by such a leap is remarkable. In the treatise on *Animal Mechanics*, in the *Library of Useful Knowledge*, it is shown how the number of bones in the human foot, arranged into a great number of joints, produces the elasticity which is required in its complicated movements. The lion's foot has nearly the same number of bones as the human, answering, of course, the same end.* But as the cat tribe are exposed, from their modes of life, to much more violent jars upon the foot than man, so are they furnished with a peculiar provision still further to break the force of a fall or of a leap. In the domestic cat, we constantly observe the natural facility with which the tribe balance themselves when springing from a height; and this facility has given rise to the popular opinion that a cat will always fall upon its feet. The power of balancing themselves, whether leaping to or from an elevation, is in some degree produced by the flexibility of the heel, the bones of which have no fewer than four joints. But the softness with which the cat tribe alight on their feet, arises from an admirable arrangement of that Wisdom which fits every creature for its peculiar habits. In the middle of the foot there is placed a large ball, or pad, in five parts, formed of an elastic substance, intermediate in structure between cartilage and tendon; and at the



* Home, vol. i. p. 125

base of each toe is a similar pad. It is impossible to imagine any mechanism more calculated to break the force of a fall.

The same mechanism has been discovered in several species of grasshoppers and locusts, whose habit of jumping is well known; and in which the structure is evidently for the purpose of taking off the jar, when the body of the insect is suddenly brought from a state of motion to a state of rest. In a species of *gryllus* brought from Abyssinia by Mr. Salt, the feet are made up of three joints: on the under surface of the first are three pair of globular cushions, filled with an elastic fibrous substance, looser in its texture towards the circumference, which renders it more elastic; under the second joint is one pair of similar cushions; and under the last joint, immediately between the claws, is a large oval sucker.* This sucker is for the purpose of supporting the insect against gravity,—a mechanism which the fly possesses.† A British species of grasshopper (*acryolium biguttulum*) has the same cushions, and the same oval sucker, as the grasshopper from Abyssinia. The following engraving of the foot of this species is magnified two thousand five hundred times.



This similarity of structure, for similar purposes, in the lion and the grasshopper, offers a remarkable example of the uniformity of the contrivances of Nature, which, however different be the application, always attain the required end by the simplest means.

* Home, vol. iii. p. 202.

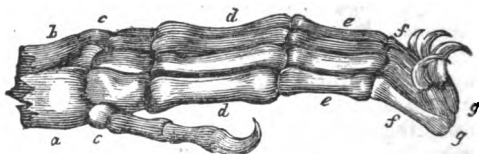
† See Preliminary Treatise to the Library of Useful Knowledge.

We have seen in an extract from Mr. Burchell's travels, that when his dogs attacked a lion, two of them were killed by a very slight movement of the lion's paw. We must attribute this circumstance to the remarkable hardness of the bone of the fore leg. The texture of this bone is so compact, for the purpose of resisting the powerful contraction of the muscles, that the substance will strike fire with steel.* This hardness is produced, according to the testimony of Mr. Hatchett, a distinguished chemist, by the degree of closeness of the fibres of which the bone is composed. From its extraordinary hardness, it was thought that the bone of the lion's fore leg was of a peculiar chemical composition; but Mr. Hatchett has also shown that it only contains a larger proportion of phosphate of lime than is found in ordinary bones. Different bones of other animals vary also in their degree of compactness, and are hard in proportion to the weight which the bone is required to support, or the exertion which it is destined to make. Thus the fore feet of a race-horse and of a deer are very small, but unusually hard. The hardness of the bone of the lion's fore-leg is, therefore, not only necessary to bear the great muscular strain upon it, but it forms a powerful instrument of destruction. It will batter in a horse's skull, as if it were a sledge-hammer.

From the examination of the domestic cat, we know that its claws do not touch the ground when it walks, but we also know that they are capable of extension when it seizes its prey. This is a peculiar property of all the cat tribe, and a most remarkable one it is. To explain the arrangement which nature has provided for extending the claws of the lion, as well as all the cat tribe, we must be somewhat minute and must illustrate the subject by a figure

* Home, v. 354.

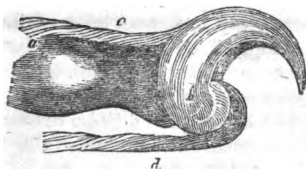
of the upper surface of the bones of the lion's fore-foot.*



a and *b* are the extremities of the two lower bones of the leg; *c c*, the *carpal* bones (corresponding with those of the human wrist;) *d d*, the four *metacarpal* bones (corresponding with those of the human hand from the wrist to the knuckles;) *e e*, the four bones of the first *phalanx* of toes; *ff*, the four bones of the second *phalanx*; *g g*, the extreme bones of the toes. Into these bones the claws are inserted by what is called an immoveable articulation—that is, the bone has a cavity, with a protuberance at its centre; and the claw, which is also a bony substance, fills up the cavity, and has an indentation, or notch, to receive the protuberance. The extreme bones of the toes, *g g*, into which the claws are immoveably fixed, move upon a joint connecting each of them with the bones *ff*; and this motion has a range of nearly a semi-circle, so that the claws may be pointed upward, as we see them in the engraving, or downward, as they are when the animal seizes his prey. To shew how this singular movement is produced, we must refer to the next engraving.

a is a bone of the second *phalanx*, corresponding with *f* in the former figure; this is articulated with the last bone, *b*, to which the claw is attached: *c* is an elastic ligament, acting the office of a spring, by

*This figure, as well as the next, and the magnified view of the lion's tongue, are taken from "Mémoires pour servir à l'histoire naturelle des Animaux; dressés par M. Perrault." Amsterdam, 1758.



which the claw is held up when it is in a state of rest, as well as when the animal walks. "Muscular contraction is employed when parts are to be moved from a state of rest; but is not always used to bring them back to that state, or to support them in it. On many such occasions, a less expensive means is adopted, by the introduction of elastic ligament."* To bring down the claws, when they are required for the seizure of prey, muscular action is employed; *d* is the tendon of a powerful muscle: when, therefore, the animal desires to employ his claws, the muscle is contracted by an effort of the will; the tendon attached to the muscle pulls down the claw, and thus gives a half rotary motion to the last joint of the toe; and the elastic ligament yields to the stronger action of the muscle. When the object is accomplished, and the muscle is at rest, the ligament, acting as a spring, pulls up the claw. Can any machinery be more perfect? could any devised by human skill answer the purpose as easily, as simply, and as effectually †?

* Home, i. 49.

† For a precise anatomical description of this contrivance, see Perrault's Memoirs. The following is Cuvier's account of the mechanism:—

"The form of the last and of the second *phalanges* is very remarkable in the cat tribe, animals which are endowed with the faculty of raising their claws, so that they may not wear them by friction with the ground, in moving about.

"The second *phalanx* is triangular. Two of its faces are lateral, and the third placed solewise. On the inner side, or that which is next the thumb, the lateral face presents a kind of contortion, in such wise that the middle part is oblique, and as it were hollow.

An extraordinary instance of a variation of this mechanism, adapted to the peculiar wants of the animal, is presented by the sloth (*bradypus*.) In the lion, the extension of the claws is only occasional; in the sloth they are required to be extended for constant use. The position of the elastic ligaments, and of the muscles, is therefore reversed. In the sloth, the ligaments draw down the talons, and the muscles raise them.*

The strength of the lion's jaws—the power of the muscles which move the lower jaw—and the construction of his teeth for tearing, cutting, and crushing animal matter—are popularly known. We shall describe the teeth more particularly when we give the generic distinctions of the cat tribe.

There is one peculiar distinction of the lion, as well as of all his *congeners*, (animals of the same

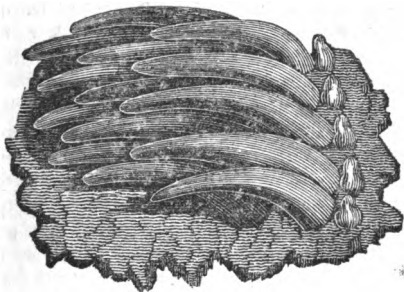
“The third *phalanx*, or that which bears the claw, is still more singular in its form, in its joints, and its movements.

“The figure of this bone is that of a hook formed of two parts the one projecting forwards, bent, sharp, and pointed, receives the nail, which nearly corresponds with it in shape. The base of this first portion forms a kind of bony hood, into which the lower part (base) of the nail is received, as in a sheath, but in such manner that it cannot be pushed backwards. The second part of the hook is placed behind: it rises almost perpendicularly, and is only jointed with its lower portion; it extends below the joint by two additional parts, (*appendices*,) which serve for a point of connexion with the muscles, whose province it is to thrust out the claw, or, which amounts to the same, to bend the *phalanx*. The joints of this bone, in fact, are disposed in such a manner, that when extended, which it is capable of being far beyond the right line, it is really reversed upwards and backwards on the second *phalanx* of the inner or radial side, in such manner, that the lateral hollow in the second *phalanx* serves as a case for the third; and that, in this state, the point of the talon, so far from touching the ground, is actually turned towards the sky.

“This reversed position is that of repose, in which the *phalanx* is retained in its place by two sorts of ligaments, viz., the capsular ligaments, and the two lateral ones, which proceed from the second *phalanx*.”—*Anat. Com. Leçon II. Art. VII.*

* Home, i. 133.

family,) which deserves a particular attention. The most obtuse sense of this branch of carnivorous quadrupeds is that of taste. According to Desmoulins, the lingual nerve of the lion is not larger than that of a middle-sized dog. The tongue of all animals of the cat kind is an organ of mastication, as well as of taste. Observe a lion with a bone : whatever flesh his teeth leave on it is scraped away by the sharp and horny points, inclining backwards, of his tongue. This circumstance would render it impossible that the lion, or any of the larger beasts of the same family, could lick the hand of a man, as we read in some fables, without tearing away the skin. The following is a greatly magnified representation of a portion of the lion's tongue.



We have thus, somewhat more particularly than will be our usual practice, gone through several of the most striking peculiarities of the lion's structure. His conformation is evidently designed for the destruction of animal life. We have noticed the roar by which he rouses his prey ; the eye by which he sees it in the dark ; the sensitive whiskers, and the cushioned foot, by which he creeps upon it without noise ; the great physical force by which the spring upon the victim is performed, and the provision

against any injury from the exercise of that force, the powerful instrument with which he strikes his prey, in itself most hard and massive, and armed with retractile claws; the teeth, the jaw, the prickly tongue, by which he is enabled to satisfy his appetite. All these properties form a part of the condition of his existence; and it should be borne in mind that the very nature of his food has a tendency to preserve his character unaltered; to support his enormous muscular strength; to perpetuate his sanguinary habits. The study of Comparative Anatomy, from which science we have collected this account of some of the peculiarities of the structure of the lion, constantly presents objects of similar interest. Galen, when studying human anatomy, was so struck with the perfection with which all the parts of the human arm and hand are adapted to one another, that he composed a hymn to the Deity, expressing his admiration of a piece of so much excellence. The more we extend our researches into the animal kingdom, the more shall we be struck with this extraordinary adaptation of the parts of living bodies to their respective uses; the more shall we be convinced, by our own imperfect knowledge, of the perfection of that Wisdom and Power, whose works are as marvellous as they are unbounded.

Before we dismiss the subject of lions, we must regard them more particularly as to the character of the species being affected by confinement.

Bell, a traveller in Asia, whose work was published in 1762, tells us that the sovereign of Persia has, on days of audience, two large lions chained on each side of the passages to the rooms of state, led there by keepers in chains of gold. This is a species of subjection of which we have very few other examples. We have seen, however, a lion (Nero) exhibited in a

travelling menagerie (Wombwell's) that permitted all sorts of liberties to be taken with him, even by strangers. As many as a dozen persons have gone with safety into his den ; and some have been rash enough, under the direction of the keeper, to put their heads within his jaws. On the other hand, the natural ferocity of some lions is never completely subdued. About two years ago, an individual that we saw last autumn in a small menagerie, killed a man, who being newly appointed to the charge of the beasts, ventured into the lion's cage, and struck him there. This same animal tore the scalp off a boy's head, who incautiously approached too near his cage, in September 1828, at Bartholomew fair. The Bengal lion, and the two African lions at present in the Tower, are very gentle, and allow great familiarities from their keepers. The Asiatic lioness, taken as a cub at the same time with the lion, has had whelps,* and as is common with the species, is particularly anxious for their safety, and, therefore, apparently ferocious.

A few years ago there was a remarkable exhibition at Warwick, of two combats between lions and dogs. The tempers of the individual animals were very different. The one, an exceedingly gentle creature, (Nero, whom we have just mentioned,) could not understand that the dogs seriously meant to attack him ; and he bore their onset with the greatest patience. The other, of a fiercer and more unsubdued disposition (Wallace,) would not endure the liberties of the fierce bull-dogs that were set upon him ; and he very soon made a fearful havock amongst them. This cruel and disgraceful experiment had its precedents. The Romans delighted in such brutal exhibitions. Under the Consulate lion-fights were frequent. Sylla caused one hundred to engage together ; Pompey, six hundred ; and Cæsar, four hundred.

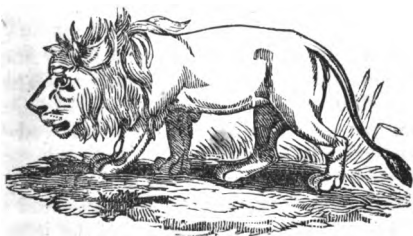
* The lioness goes with young 108 days.

The emperors also found pleasure in these exhibitions of barbarian magnificence. Adrian, it is said, often caused a hundred lions to be destroyed in the Circus ; and Antoninus and Marcus Aurelius were equally prodigal in providing such savage excitements for the appetite of the people. It may be judged from these relations, which we find in the Roman historians, that lions were infinitely more abundant in ancient times than they are now. Shaw, a traveller in Africa, observes that the Romans carried fifty times as many lions, from Libya, in one year, to combat in their amphitheatres, as were to be found in the whole country at the time he wrote. This is a necessary effect of the increase of the human race, and the progress of those arts which denote the advance of mankind in knowledge. The universal civilization of the earth, which it is not extravagant to believe may be accomplished at some distant period, will exterminate, except as subjects for curious research, all the races of those ferocious creatures which, in the total or partial absence of the dominion of man, are undisturbed possessors of the forests and plains.

There are many well authenticated narratives of the affection of lions for individuals of the human species ; and these might lead us to believe that the story was not altogether a fable, which is told by Aulus Gellius, of Androchus, (the Androcles of Buffon,) a Roman slave, being known and caressed in the Circus, by a lion who was destined to tear him in pieces ; but who recollected that the unfortunate man had cured a wound in his leg, in his native deserts. That lions subdue their instincts to protect and foster weaker animals, particularly dogs, is well known. The old lion in the Tower, who spared a spaniel thrown into his cage to be devoured, and lived happily with it for several years, is still in the recollection of some persons. A similar circumstance is related by Jean Macquet, a traveller in the reign of

Henry IV. of France, who had seen a dog at Morocco, under the protection of several lions, to whom he had been thrown for a meal. Saint Pierre very prettily describes the lion of Versailles, who, in 1793, lived most happily with a dog :—"their friendship," he says, "is one of the most touching exhibitions that Nature can offer to the speculations of a philosopher."*

Within a few years, the keepers of menageries have been successful in procuring the continuance of the species, from a lion and lioness in confinement. Several full-grown examples have been reared, in this way, in England. The cubs are always playful and harmless ; but as they approach to maturity, they invariably put on the natural habits of the race, and are, generally, as little to be trifled with as those which are whelped in the woods. The nurture of these animals under confinement must, however, have a tendency not only to soften their character, but to render their forms less perfectly adapted to the habits of their native state. The following is a sketch made in 1818, of a lion which had been reared in a menagerie. He was then three years old, and he not only had a subdued expression of countenance, but his back had become distorted, in consequence of his having been pent up in a wretched den.



* Mém. sur la Ménagerie.

CHAPTER VIII.

THE TIGER, LEOPARD, OCELOT, LYNX, PUMA, AND DOMESTIC CAT.



The Tiger. Felis Tigris.—LINNÆUS.

THE above is the portrait of a remarkably fine tiger, exhibited, in 1829, at Atkins's Menagerie. This creature is particularly gentle, permitting liberties from its keepers which are not so often allowed by the tiger in captivity, as by the lion. Nothing can be more beautiful than the power and freedom of its movements, or better indicate that force and agility, which have so long been the dread of the inhabitants of our Indian possessions.

The Tiger, commonly called the Royal Tiger, is a native of Bengal, the kingdoms of Siam and of Tonquin, of China, of Sumatra, indeed of all the countries of southern Asia, situated beyond the Indus, and extending to the north of China. The species has long been most abundant in those countries; while the Asiatic lion, on the contrary, has only been known within a few years. The average height of the tiger is about three feet, and the length nearly six feet. The species, however, varies considerably in size; and individuals have often been found much taller and longer than the lion. The peculiar markings of the tiger's skin are well known. On a ground of yellow, of various shades in different specimens, there is a series of black transverse bars, varying in number from twenty to thirty, and becoming black rings on the tail, the number of which is, almost invariably, fifteen. There are oblique bands, also, on the legs. The pupils of the eye are circular.

Buffon has described the tiger, and so have many other naturalists, as a creature which, in comparison with the lion, deserves all the hatred of mankind, and none of their admiration. "To pride, courage, and strength, the lion joins greatness, clemency, and generosity; but the tiger is fierce without provocation, and cruel without necessity." Thus writes the most eloquent of naturalists, taking up prejudices instead of attending to facts, and using his real information for the support of a false theory. Similar in anatomical construction, the tiger and the lion are similar in their habits; they are equally cats, driven by their conformation to the destruction of animal life. The tiger, perhaps, is somewhat more dangerous, for he has more activity than the lion: the clemency and generosity of both are doubtless equal. There is, however, this difference in their characters, which

is in favour of the lion. He assists the female in rearing their young ;—the tiger deserts her. The tiger species will also destroy each other, and a female has been known to eat her cubs ; but even this is not uncommon with the domestic cat. Redi, in his work "*de Generatione Insectorum*," says, describing a menagerie, " Among several curious foreign animals was a female tiger, with a cub a few months old in the same cage. This kind mother, upon coming towards Florence, whether out of sport or fury I will not undertake to say, seizing the cub in her teeth, broke its leg, and severed it from the joint. When she perceived the limb thus separated from the body, she devoured it most voraciously, although there was abundance of flesh in the cage besides." Yet the general affection of the tigress for her cubs cannot be doubted. Captain Williamson, in his work on " Oriental Field Sports," mentions that two tiger cubs were brought to him while stationed in the Ramghur district in India. They had been found, with two others, by some country people, during the absence of the mother. Being put in a stable, they made a loud noise for several nights, till at length the tigress arrived to their rescue, and replied to them by the most fearful howlings. The cubs were at last let loose, in apprehension that their mother would break in ; and in the morning it was found that she had carried them off to the neighbouring jungle.

As European civilization has advanced in India, the race of tigers, the scourge of the country, has gradually become less numerous. The Hindoos seldom of themselves attempt to hunt the tiger ; although he invades their houses and carries off their cattle, and very often the people themselves, whenever there is a village in the neighbourhood of an uncleared waste overgrown with reeds and bushes, called a jungle. The caste of Shecarries, whose business is hunting,

are not numerous enough to accomplish this destruction effectually. The active courage of Europeans will generally remove the evil. Some years ago the island of Cossimbuzar was almost completely cleared of the tigers by a German named Paul, of great muscular strength and undaunted courage, who devoted himself to their extermination. This man is said to have shot five tigers in one day. His rifle never failed ; and his success was such in this destruction of the scourge of the country, that the enormous overgrown wastes which had almost been surrendered without a struggle to those ferocious creatures, were soon changed into fertile agricultural districts. The East India Company formerly offered a donation of ten rupees (about twenty shillings) for every tiger that was destroyed within their provinces.

The tiger, like the lion, springs upon its prey from an ambush ; and, in most cases, he is easily terrified by any sudden opposition from human beings. A party in India were once saved from a tiger, by a lady opening an umbrella as she saw him about to spring. Our readers may remember the attack of a tigress upon the horses of the mail, on Salisbury plain, a few years ago. The creature had escaped from a travelling menagerie, and, not forgetting her natural habits, sprung upon the leaders as they passed her. The guard would have shot her, but her keepers drove her off, and she escaped to a hay-stack, under which she crept, and was retaken without difficulty. In narrow passes in Hindostan, travellers have often been seized by tigers ; or a bullock, or horse has fallen a victim to the ferocity of the prowling beast. Horses have such a dread of the tiger, that they can scarcely ever be brought to face him. Hunting him, therefore, on horseback, is a service of great danger ; the elephant, on the contrary, though considerably agitated, will stand more

steadily while his rider anticipates the fatal spring by a shot which levels the tiger to the earth. One peculiarity of the tiger is his willingness to take to the water, either when pursued, or in search of the prey which he espies on the opposite bank of a river.

The late excellent Bishop Heber, in his journal, has given a narrative of the mode in which a tiger-hunt is conducted, full of picturesque effect, and striking from its minute detail :

“At Kulleanpoor, the young Raja Gourman Singh mentioned, in the course of conversation, that there was a tiger in an adjoining tope which had done a good deal of mischief ; that he should have gone after it himself had he not been ill, and had he not thought it would be a fine diversion for Mr. Boulderson, the collector of the district, and me. I told him I was no sportsman, but Mr. Boulderson’s eyes sparkled at the name of tiger, and he expressed great anxiety to beat up his quarters in the afternoon. Under such circumstances, I did not like to deprive him of his sport, as he would not leave me by myself, and went, though with no intention of being more than a spectator. Mr. Boulderson, however, advised me to load my pistols for the sake of defence, and lent me a very fine double barrèlled gun for the same purpose. We set out a little after three on our elephants, with a servant behind each howdah, carrying a large chatta, which, however, was almost needless. The Raja, in spite of his fever, made his appearance too, saying that he could not bear to be left behind. A number of people, on foot and horseback, attended from our own camp and the neighbouring villages, and the same sort of interest and delight was evidently excited which might be produced in England by a great coursing party. The Raja was on a little female elephant, hardly bigger than the Durham ox, and almost as shaggy as a

poodle. She was a native of the neighbouring wood, where they are generally, though not always, of a smaller size, than those of Bengal and Chittagong. He sat in a low howdah,* with two or three guns ranged beside him, ready for action. Mr. Boulderson had also a formidable apparatus of muskets and fowling-pieces, projecting over his mohout's head. We rode about two miles across a plain covered with long jungly grass, which very much put me in mind of the country near the Cuban. Quails and wild-fowl arose in great numbers, and beautiful antelopes were seen scudding away in all directions."

The Bishop then describes the beating of the jungle, the rushing out of two curious animals of the elk kind, called the "mohr," and the growing anxiety of all the people engaged in the hunt. He then proceeds thus:—

"At last the elephants all drew up their trunks into the air, began to roar, and stamp violently with their fore-feet. The Raja's little elephant turned short round, and in spite of all her mohout (her driver) could say or do, took up her post, to the Raja's great annoyance, close in the rear of Mr. Boulderson. The other three (for one of my baggage elephants had come out too, the mohout, though unarmed, not caring to miss the shew) went on slowly, but boldly, with their trunks raised, their ears expanded, and their sagacious little eyes bent intently forward. 'We are close upon him,' said Mr. Boulderson; 'fire where you see the long grass shake, if he rises before you.' Just at that moment my elephant stamped again violently. 'There, there,' cried the mohout, 'I saw his head.' A short roar, or rather loud growl followed, and I saw immediately before my elephant's head the motion of some large animal

* The howdah is a seat somewhat resembling the body of a gig, and is fastened by girths to the back of the elephant.

stealing through the grass. I fired as directed, and a moment after, seeing the motion still more plainly, fired the second barrel. Another short growl followed ; the motion was immediately quickened, and was soon lost in the more distant jungle. Mr. Boulderson said, ' I should not wonder if you hit him that last time ; at any rate we shall drive him out of the cover, and then I will take care of him.' In fact at that moment the crowd of horse and foot spectators at the jungle side, began to run off in all directions. We went on to the place, but found it was a false alarm ; and, in fact, we had seen all we were to see of him, and went twice more through the jungle in vain

" I asked Mr. Boulderson in our return, whether tiger-hunting was generally of this kind, which I could not help comparing to that chase of bubbles which enables us in England to pursue an otter. In a jungle, he answered, it must always be pretty much the same, inasmuch as, except under very peculiar circumstances, or when a tiger felt himself severely wounded, and was roused to revenge by despair, his aim was to remain concealed, and to make off as quietly as possible. It was after he had broken cover, or when he found himself in a situation so as to be fairly at bay, that the serious part of the sport began, in which case he attacked his enemies boldly, and always died fighting. He added, that the lion, though not so large or swift an animal as the tiger, was generally stronger and more courageous. Those which have been killed in India, instead of running away when pursued through a jungle, seldom seem to think its cover necessary at all. When they see their enemies approaching, they spring out to meet them, open-mouthed, in the plain, like the boldest of all animals, a mastiff dog. They are thus generally shot with very little trouble ; but

if they are missed, or only slightly wounded, they are truly formidable enemies. Though not swift, they leap with vast strength and violence ; and their large heads, immense paws, and the great weight of their body forwards, often enable them to spring on the head of the largest elephants, and fairly pull them down to the ground, riders and all. When a tiger springs on an elephant, the latter is generally able to shake him off under his feet, and then woe be to him. The elephant either kneels on him and crushes him at once, or gives him a kick which breaks half his ribs, and sends him flying perhaps twenty paces. The elephants, however, are often dreadfully torn ; and a large old tiger sometimes clings too fast to be thus dealt with. In this case it often happens that the elephant himself falls, from pain, or from the hope of rolling on his enemy ; and the people on his back are in very considerable danger both from friends and foes, for Mr. Boulderson said the scratch of a tiger was sometimes venomous, as that of a cat is said to be. But this did not often happen ; and, in general, persons wounded by his teeth or claws, if not killed outright, recovered easily enough."

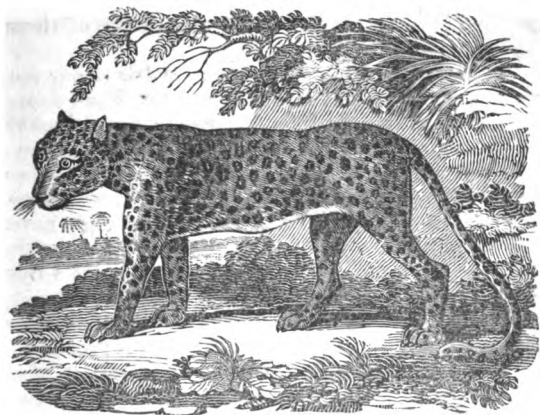
There appears to be no greater difficulty in rendering the tiger docile than the lion. As the sovereign of Persia has his tame lions, so have the faquirs, or mendicant priests of Hindostan, their tame tigers. These will accompany them in their walks, and remain, without attempting to escape, in the neighbourhood of their huts. The tigers in the English menageries appear, with a few exceptions, to be ordinarily under as complete control as the species which, for so long a time, has been supposed to possess all the generous virtues of the *genus felis*.

Several keepers of menageries, during the last few

years, have succeeded in obtaining a mixed breed between the lion and the tiger. Mr. Atkins has exhibited cubs, produced at various times, by the union of the lion with the tigress. In September last, we saw two lion-tiger cubs in his exhibition, which had been whelped at Edinburgh, on the 31st December, 1827. Their general colour was not so bright as that of the tiger species, and the transverse bands were rather more obscure. The little creatures were very playful, and the mother was most tractable, suffering the keeper to enter the den, and exhibit her cubs to the spectators.

The tigress produces three or four cubs at a litter.





The Leopard. Felis Leopardus.—LINNÆUS.

In the garden of the Zoological Society is a pair of beautiful leopards ; and also a single male. Each of these creatures appears particularly gentle ; and we have seen a lady, somewhat incautiously, pat the single male upon the head, when the creature purred like a cat, and exhibited the most unequivocal marks of delight. Mrs. Bowditch, the widow of the distinguished naturalist and traveller, has a tame leopard, of which she has published a very interesting account in Loudon's Magazine of Natural History. Leopards, however, like all of their race, appear to be of exceedingly uncertain tempers ; and we have more than one instance recorded of their attacking individuals, when they have been incautiously left at liberty. The celebrated John Hunter had a fortunate escape, in a contest with two leopards that were confined in a yard of his house. They broke loose, attacked some dogs, and were climbing the wall, when the great anatomist heard the uproar ; and,

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rushing into the yard, seized upon both of them, and secured them without injury.

The average length of the leopard is under four feet, and his height about two feet. The general colour of his skin, and the arrangement of the spots, is exceedingly beautiful. The yellowish fawn ground, which gradually becomes a perfect white on the under parts of the body, is covered with black spots, of a round or oval form, on the head, neck, limbs, and back ; while on the sides, and part of the tail, the spots unite in ten ranges of distinct roses, surrounding a central area of a somewhat deeper colour than the general ground. In the *Panther*, there are only six or seven ranges of these roses.*

The natural habits of the leopard, like those of all the cat tribe, are compounded of ferocity and cunning. He preys upon the smaller animals, such as antelopes, sheep, and monkeys ;—and he is enabled to secure his food with great success, from the extraordinary flexibility of his body. The leopards in the Tower, who have a tolerably large cage, bound about with the quickness of a squirrel, so that the eye can hardly follow their movements. In Africa, they are sometimes found of extraordinary size and rapacity. Their relative size principally distinguishes the leopard and the panther, the latter being ordinarily the larger. M. Cuvier considers them distinct species ; although they are doubtless often mistaken by travellers, from their great similarity.

We have been favoured, by a gentleman who was formerly in the civil service at Ceylon, with the following description of an encounter with a leopard or panther, which in India are popularly called tigers:—

“ I was at Jaffna, at the northern extremity of the Island of Ceylon, in the beginning of the year 1819 ; when, one morning, my servant called me an hour or two before my usual time, with, ‘ Master, master !

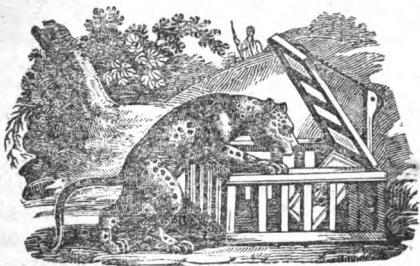
* Cuvier, Règne Animal.

people sent for master's dogs—tiger in the town !' Now, my dogs chanced to be some very degenerate specimens of a fine species, called the *Poligar* dog, which I should designate as a sort of wiry-haired greyhound, without scent. I kept them to hunt jackals ; but tigers are very different things : by the way, there are no real tigers in Ceylon ; but leopards and panthers are always called so, and by ourselves as well as by the natives. This turned out to be a panther. My gun chanced not to be put together ; and while my servant was doing it, the collector, and two medical men, who had recently arrived, in consequence of the cholera morbus having just then reached Ceylon from the continent, came to my door, the former armed with a fowling-piece, and the two latter with remarkably blunt hog-spears. They insisted upon setting off without waiting for my gun, a proceeding not much to my taste. The tiger (I must continue to call him so) had taken refuge in a hut, the roof of which, as those of Ceylon huts in general, spread to the ground like an umbrella ; the only aperture into it was a small door, about four feet high. The collector wanted to get the tiger out at once. I begged to wait for my gun ; but no—the fowling-piece (loaded with ball, of course) and the two hog-spears were quite enough. I got a hedge-stake, and awaited my fate, from very shame. At this moment, to my great delight, there arrived from the fort an English officer, two artillery-men, and a Malay captain ; and a pretty figure we should have cut without them, as the event will shew. I was now quite ready to attack, and my gun came a minute afterwards. The whole scene which follows took place within an enclosure, about twenty feet square, formed, on three sides, by a strong fence of palmyra leaves, and on the fourth by the hut. At the door of this the two artillery-men planted them-

selves ; and the Malay captain got at the top, to frighten the tiger out, by worrying it—an easy operation, as the huts there are covered with cocoa-nut leaves. One of the artillery-men wanted to go in to the tiger, but we would not suffer it. At last the beast sprang ; this man received him on his bayonet, which he thrust apparently down his throat, firing his piece at the same moment. The bayonet broke off short, leaving less than three inches on the musket ; the rest remained in the animal, but was invisible to us : the shot probably went through his cheek, for it certainly did not seriously injure him, as he instantly rose upon his legs, with a loud roar, and placed his paws upon the soldier's breast. At this moment, the animal appeared to me to about reach the centre of the man's face ; but I had scarcely time to observe this, when the tiger, stooping his head, seized the soldier's arm in his mouth, turned him half round staggering, threw him over on his back, and fell upon him. Our dread now was, that if we fired upon the tiger, we might kill the man : for a moment there was a pause, when his comrade attacked the beast exactly in the same manner as the gallant fellow himself had done. He struck his bayonet into his head ; the tiger rose at him—he fired ; and this time the ball took effect, and in the head. The animal staggered backwards, and we all poured in our fire. He still kicked and writhed ; when the gentlemen with the hog-spears advanced, and fixed him, while some natives finished him, by beating him on the head with hedge-stakes. The brave artillery-man was, after all, but slightly hurt : he claimed the skin, which was very cheerfully given to him. There was, however, a cry among the natives that the head should be cut off : it was ; and, in so doing, *the knife came directly across the bayonet.* The animal measured scarcely less than

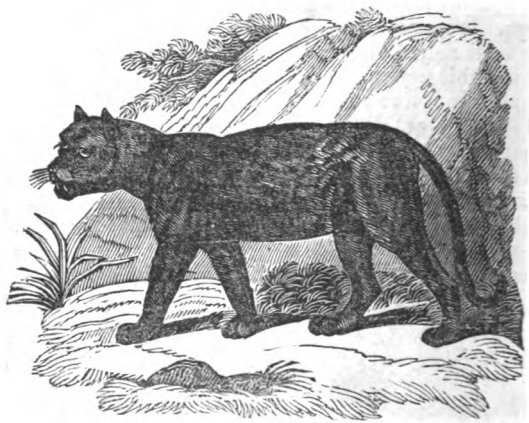
four feet from the root of the tail to the muzzle. There was no tradition of a tiger having been in Jaffna before; indeed, this one must have either come a distance of almost twenty miles, or have swam across an arm of the sea nearly two in breadth; for Jaffna stands on a peninsula on which there is no jungle of any magnitude."

The leopard of India is called by the natives the "Tree Tiger," from its habit of ascending a tree, when pursued, or for the purpose of enabling it to spring securely on its prey. It is doubtless able to effect this ascent, by the extraordinary flexibility of its limbs, which give it the power of springing upward;—for, in the construction of the feet, it has no greater facilities for climbing than the lion or the tiger. It cannot clasp a branch like the bear, because the bone called the *clavicle* is not sufficiently large to permit this action. The Indian hunters chase the leopard to a tree; but even in this elevated spot it is a task of great difficulty to shoot him; for the extraordinary quickness of the creature enables him to protect himself by the most rapid movements. The Africans catch this species in pitfalls, covered over with slight hurdles, upon which there is placed a bait. In some old writers on Natural History there are accounts of the leopard being taken in a trap, by



means of a mirror, which, when the animal jumps against it, brings down the door upon him. This story may have received some sanction from the disposition of the domestic cat, when young, to survey her figure in a looking glass.

In Wombwell's Menagerie there was recently exhibited a species of leopard, of a deep black colour, with blacker spots. This animal was somewhat smaller than leopards in general, and of very ferocious appearance. Black leopards, or panthers, are commonly found in the East Indies ; but it is considered that the colour is only accidental : and it is affirmed, that a black and a yellow cub have been taken from the same nest.



Black Panther. Felis melas.—PERON.

The Hunting Leopard, or Chetah (*Felis Jubata*), which is trained in India for the chase of antelopes, differs in one striking peculiarity from the family of cats. His claws are very slightly retractile. This

species has been imperfectly known in Europe, with regard to its generic character, till of late years ; although Bernier, Tavernier, and other oriental travellers, have described the uses to which it was applied. Gesner, an early writer on natural history, tells us that Francis I., of France, had a leopard, which he employed in the chase, and which an attendant carried before him on a horse.



Ocelot.—*Felis pardalis*, LINNÆUS.

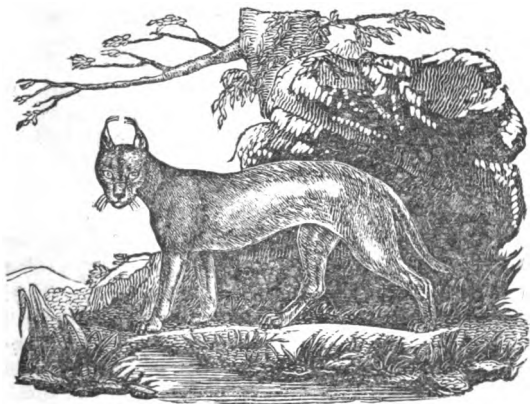
One of the most beautiful of cats is the Ocelot. It is smaller than the leopard, being generally about three feet in length and eighteen inches in height. Upon a gray ground, slightly tinged with fawn, are marked longitudinal bands, of which the margins are perfectly black, and the central parts of a deeper fawn than the general ground. These margins of

black, inclosing a deep fawn, become black lines and spots, on the neck, and head, and on the outer sides of the limbs. From the top of the head towards the shoulders there pass several diverging black bands ; and on the top of the back, the line is quite continuous. The tail is spotted upon a ground like that of the body.

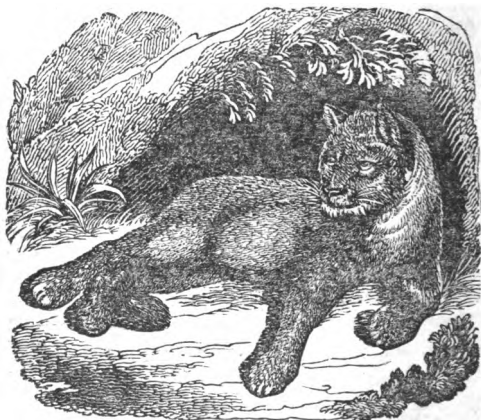
The ocelot in the garden of the Zoological Society died during the late severe winter. The above portrait is from the specimen in the Tower, which is remarkable for the shortness of the tail. This animal was presented to the King by Sir Ralph Woodford, late governor of Trinidad. It is tolerably docile ; and does not seize its food with the violence which distinguishes nearly every other species of the cat tribe. This ocelot is usually fed upon rabbits and birds, upon which it principally preys in a state of nature.

The Zoological Society has also been unfortunate in the death of a very beautiful specimen of the *Canadian Lynx*. This animal, when we saw it in the autumn, appeared very lively, and particularly irascible when looking at visitors. It made a hissing noise, and exhibited its beautiful teeth with a considerable expression of anger. The eye was, however, not so brilliant as popular opinion represents that of the lynx to be. This is one of the fables of antiquity which accurate observation has exploded. Amongst the hunters of America, the lynx is called the wild-cat. Major Denham says, that it is a timid animal, and offers little resistance when attacked. It is easily killed by a blow on the back. The sharp ears, tipped with a tuft of black hair, peculiarly distinguish the lynx from the other cats. Its legs are thick and furry ; and its tail, also tipped with black, is short. Its average height is

about sixteen inches, and its length about two feet six inches. The Canadian lynx is not spotted ; and the fur is of a reddish-gray mottled appearance, except on the under part of the body, which is lighter. This species principally preys on the common hares of the country ; and is found in such quantities by the fur-gatherers, that, as we have before mentioned, nine thousand skins have been imported in one year by the Hudson's Bay Company.



Canadian Lynx.—Felis Canadensis, GEOFF



Puma.—Felis concolor, LINNÆUS.

THE above engraving is a portrait of one of the most beautiful of the cat tribe in the Zoological Gardens. This creature appears perfectly mild and playful; sleeping, for the most part, in the day; but sometimes rising when interrupted by a stranger, and occasionally knocking about a little ball in its cage.

The puma is a native of the New World, and is principally found in Paraguay, Brazil, and Guiana. He is, however, often seen in the United States; but there, as in every other part of the world, civilization daily lessens the range of those animals which live by the destruction of others. The puma, in its natural state, is asanguinary creature, attacking the smaller quadrupeds, and often destroying more than can be necessary for the satisfaction of his appetite. He is alarmed at the approach of men or of dogs,

and flies to the woods, where he mounts trees with great ease. He belongs to the same division of cats as the lion, by the essential character of the unspotted colour of his skin, which is of a reddish-yellow, or silvery-fawn ; but, unlike the lion, he is without a mane, and the tail has no tuft. The average length of the puma is about four feet, and its height about two feet. It stands lower on the legs than the lion, and the head is round and small.

The puma, which was long called the American lion, though a large animal, is not an object of great dread to the natives of the regions to which he belongs. He is easily tamed. D'Azara, the naturalist, had one which was as sensible to caresses as the common cat ; and Mr. Kean, the tragedian, had a domesticated puma, which was much attached to him. Although there have been instances of the puma attacking, and even destroying the human species ; in South America they have an instinctive dread of any encounter of this nature. Capt. Head, in his "Journey across the Pampas," has the following interesting anecdote of the puma, which, in common with other travellers, he incorrectly calls the lion :

"The fear which all wild animals in America have of man is very singularly seen in the Pampas. I often rode towards the ostriches and zamas, crouching under the opposite side of my horse's neck ; but I always found that, although they would allow any loose horse to approach them, they, even when young, ran from me, though little of my figure was visible ; and when one saw them all enjoying themselves in such full liberty, it was at first not pleasing to observe that one's appearance was everywhere a signal to them that they should fly from their enemy. Yet it is by this fear that 'man hath dominion over the beasts of the field,' and there is no animal in South America that does not acknowledge this instinctive

feeling. As a singular proof of the above, and of the difference between the wild beasts of America and of the Old World, I will venture to relate a circumstance which a man sincerely assured me had happened to him in South America.

“He was trying to shoot some wild ducks, and, in order to approach them unperceived, he put the corner of his poncho (which is a sort of long, narrow blanket) over his head, and crawling along the ground upon his hands and knees, the poncho not only covered his body, but trailed along the ground behind him. As he was thus creeping by a large bush of reeds, he heard a loud, sudden noise, between a bark and a roar : he felt something heavy strike his feet, and instantly jumping up, he saw, to his astonishment, a large lion actually standing on his poncho ; and, perhaps, the animal was equally astonished to find himself in the immediate presence of so athletic a man. The man told me he was unwilling to fire, as his gun was loaded with very small shot ; and he therefore remained motionless, the lion standing on his poncho for many seconds : at last the creature turned his head, and walking very slowly away about ten yards, he stopped and turned again : the man still maintained his ground, upon which the lion tacitly acknowledged his supremacy, and walked off”



WE have thus described the structure and appearance, and traced the habits, of several species of the cat tribe ; and have particularly seen, that the invariable characteristic of the race—of whatever form, of whatever colour, of whatever physical power, the individual variety may be—is a ruling desire for the destruction of animal life. In some species, this desire is carried into action with more boldness, in others with more cunning ; but in all there is a mixture of cunning and boldness, more or less mingled with a suspicion which assumes the appearance of fear, the unchanging property of all treacherous natures. The creature which lies at our fire-side, leaps upon our table, sits upon our knee, purs round our legs, attends us at our meals, never forsakes our houses, and altogether appears as if it could only exist in dependence upon man—the Domestic Cat—is precisely of the same nature as the leopard or the ocelot. In this case, unlike that of the dog, there is no doubt which is the original head of the domesticated stock. The wild cat of the European forests is the tame cat of the European houses : the tame cat would become wild if turned into the woods ; the wild cat at some period has been domesticated, and its species has been established in almost every family of the old and new continent.

The domestic cat has been multiplied with the multiplication of the small noxious animals that follow the progress of civilization. As man erects houses, these animals seek therein shelter and food. Without the cat, this would have been, and would still be, a most serious evil. The fecundity of mice would make them the most troublesome inmates of a family ; and their attacks upon every eatable substance would cause a great diminution of the produce of human industry. It would be difficult to trace the period when the wild cat was first brought from

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the woods, where it preys upon the birds, and field-mice, and leverets, and young rabbits, with as much avidity as the lion hunts after antelopes and oxen. But there must have been a period when it first occurred to man that the instincts of this animal might be subdued to his uses. In the ruder ages of society,—in the tenth and eleventh centuries, for instance,—we find domestic cats very scarce ; and laws were then passed against their mutilation, and other regulations made, which shew the importance attached to their preservation. In the Collection of Welsh Statutes (*Leges Walliæ*) may be found the value of a cat of every age, and of each degree of adroitness and vigour. The passion for animal food, or rather the desire to destroy a living animal, is the quality which makes the cat valuable to man. Domestication does not extinguish the passion ; for the pampered inmate of the parlour does not forget its nightly prowling through every part of a house where mice can come ; and the consequence is, that we are, to a great degree, unmolested by these troublesome visitors, who would be quite as offensive, though not so dangerous, as the numberless varieties of ferocious creatures which the dog has so materially assisted us in subduing or exterminating.

The Wild Cat (*felis catus*) is much about the size of the ordinary cat ; and is of a gray colour, marked with black stripes, longitudinal on the back, and transverse on the flanks ; the lips and soles of the feet black ; the tail marked with rings, with a black tip. The Domestic Cat (*felis catus domesticus*) has no essential external variation from the wild stock, except, perhaps, in the greater brilliancy of its colours. The lips and the soles of the feet are also constantly black, as well as the end of the tail. There is, however, this peculiarity in the domestic species ; it is not entirely carnivorous, for it will readily eat bread, and

other vegetable matter : and, following up the constant analogy between habit and structure, we find the intestines of the tame proportionably longer than those of the wild variety. Domestic cats, too, will devour insects. We have often seen a cat catch flies : and we know one that ordinarily eats the black-beetle, (*blatta orientalis*,) which species is now as great a nuisance in London houses as the cock-chaffer (*melolantha vulgaris*) is in the fields, by feeding, while in the larva state, on the roots of corn. Mr. Howard, in his work on the climate of London, records the fact of a cat catching cock-chaffers and eating them. If this habit were general, the destruction of this troublesome insect would be more securely provided for, than was accomplished by the Spiritual Court of Lausanne, in 1479, when the offending insect was cited to answer for its mal-practices ; and, although an advocate was assigned for its defence, was, after mature deliberation, placed under the *ban* of the Church.* Quadrupeds seldom prey upon insects, although the ant-eater is an exception, as well as the mole ; and the common hedge-hog has lately been domesticated in London, for the more complete destruction of black-beetles than can be effected by cats or traps of glass.

It would be a singular inquiry, though somewhat difficult, to ascertain what qualities the cat has lost by domestication, and what it has acquired. Some of its instincts appear perfect as in the natural state—some more matured—and some nearly subdued. In a singular old work on natural history (*Bartholomæus de Proprietatibus Rerum*,) which was translated into English by Thomas Berthlet, and printed by Wynkyn de Worde as early as 1498, we have a very curious description of the cat, which sums up most of the

* Stettler's *Schweitzer Chronic*. (quoted in Blumenbach's *Manual of Natural History*.)

properties of the animal in a quaint and amusing way. For example :—" He is most like to the leopard, and hath a great mouth, and saw-teeth and sharp, and long tongue, and pliant, thin, and subtle ; and lappeth therewith when he drinketh, as other beasts do, that have the nether lip shorter than the over ; for, by cause of unevenness of lips, such beasts suck not in drinking, but lap and lick, as Aristotle saith, and Plinius also. And he is a full lecherous beast in youth, swift, pliant, and merry, and leapeth, and riseth on all thing that is tofore him ; and is led by a straw, and playeth therewith : and is a right heavy beast in age, and full sleepy, and lieth slyly in wait for mice ; and is ware where they bene more by smell than by sight, and hunteth and riseth on them in privy places ; and when he taketh a mouse, he playeth therewith, and eateth him after the play ; and is a cruel beast when he is wild, and dwelleth in woods, and hunteth there small wild beasts, as conies and hares." The same cruelty belongs to the domestic cat as the wild—that instinct is never subdued. But the range of its food is limited by its hereditary habits of domestication. There is no doubt that wild cats will seize on fish ; and the passionate longing of the domestic cat after that food is an evidence of the natural desire. We have seen a cat overcome her habitual reluctance to wet her feet, and seize an eel out of a pail of water. Dr. Darwin alludes to this propensity :—" Mr. Leonard, a very intelligent friend of mine, saw a cat catch a trout by darting upon it in a deep clear water, at the mill at Weaford, near Lichfield. The cat belonged to Mr. Stanley, who had often seen her catch fish in the same manner in summer, when the mill-pool was drawn so low, that the fish could be seen. I have heard of other cats taking fish in shallow water, as they stood on the bank. This seems to be a natural method of taking their prey,

usually lost by domestication, though they all retain a strong relish for fish." Some of their instincts are unchanged by domestication, although they have ceased to be of use ; and a habit of reasoning does not so completely become mixed with the instinct, as in the dog. All the species of the cat tribe cover up their dung. Most persons must have observed that cats effect this with ashes, earth, or whatever loose rubbish they can find near, a habit which renders them a great nuisance in gardens, particularly after seeds have been sown. From the great care with which, in such cases, they draw the mould together, going round and round the circle till they seem satisfied with their work, it might be concluded to be more a rational proceeding than one arising from instinct. But cats, when confined to a room or a paved yard, go through the very same process, scratching the wooden floor or the flag-stones, and going similar rounds, as in a garden, or a dust-pit ; whereas, had the animals possessed much rationality, they must have at once perceived the folly of such attempts.

The ability of cats to seize upon their ordinary prey, mice or birds, does not appear to lose anything by domestication. The extraordinary patience with which a cat will watch a mouse-hole, for hours, is, doubtless, a natural property. This determined bending of the will to one object is, probably, a principal cause of the fascination which some serpents possess. In a very agreeable book, recently published, "The Journal of a Naturalist," we find several instances of this power being exercised by hawks upon the smaller birds. The author of that Journal, says, "there can be no doubt of the fact, that instinctive terror will subdue the powers of some creatures, rendering them stupified and motionless at the sudden approach of danger." Cats, in some degree, are supposed to possess this

power of terrifying their prey. Montaigne gives a story illustrative of the notion :

“ There was at my house, a little while ago, a cat seen watching a bird upon the top of a tree, and for some time they mutually fixed their eyes upon each other. At length, the bird let herself fall dead into the cat’s claws, either dazzled and astonished by the force of imagination, or drawn by some attractive power in the cat. This is similar to the story told of the falconer who, having earnestly fixed his eyes upon a kite in the air, laid a wager that he would bring her down by the power of sight alone, and succeeded, as it was said ; for, when I borrow a tale of this kind, I charge it upon the conscience of those from whom I have it.*” There is no doubt that a mouse will sometimes suddenly yield itself to the power of its enemy. Montaigne very properly doubts the story of the falconer ; though the human eye has certainly great power, particularly in warding off the attack of a dog or a cow.

One of the most remarkable properties of a domestic cat is the anxiety with which it makes itself acquainted, not only with every part of its usual habitation, but with the dimensions and external qualities of every object by which it is surrounded. Cats do not very readily adapt themselves to a change of houses ; but we have watched the process by which one, whose attachment to a family is considerable, reconciles itself to such a change. He surveys every room in the house, from the garret to the cellar ; if a door is shut, he waits till it be opened to complete the survey ; he ascertains the relative size and position of every article of furniture ; and when he has acquired this knowledge, he sits down contented with his new situation. It appears necessary to a cat that

* *Essays*, i. 20.

he should be intimately acquainted with every circumstance of his position, in the same way that a general first examines the face of the country in which he is to conduct his operations. If a new piece of furniture, if even a large book or portfolio, is newly placed in a room which a cat frequents, he walks round it, smells it, takes note of its size and appearance, and then never troubles himself further about the matter. This is, probably, an instinctive quality ; and the wild cat may, in the same way, take a survey of every tree or stone, every gap in a brake, every path in a thicket, within the ordinary range of its operations. The whiskers of the cat, as we have mentioned in the case of the lion, enable it to ascertain the space through which its body may pass, without the inconvenience of vainly attempting such a passage.

The memory of a cat must be very strong, to enable it to understand this great variety of *local* circumstances, after a single observation. The same power of memory leads this animal, much as its affection may be doubted, to know the faces of individuals. We have seen a cat exhibit manifest delight upon the return of its master, or of a person from whom it had received peculiar kindness. There are several instances of strong attachment to the human race in cats, though in number and intensity they fall far short of the attachment of the dog. They have sometimes, also, great affection to other animals, which becomes a reciprocal feeling. The celebrated stallion, the Godolphin Arabian, and a black cat, were, for many years, the warmest friends. When the horse died, in 1753, the cat sat upon his carcase till it was put under ground ; and then, crawling slowly and reluctantly away, was never seen again, till her dead body was found in a hay-loft.* Stubbs

* Lawrence's History of the Horse, p. 109.

painted the portraits of the Arabian and the cat. There was a hunter in the late King's stables at Windsor, to which a cat was so attached, that whenever he was in the stable, the creature would never leave her usual seat upon the horse's back, and the horse was so well pleased with the attention, that to accommodate his friend, he slept, as horses will sometimes do, standing. This, however, was found to injure his health ; and the cat was at length removed to a distant part of the country.

The attachment of domestic cats to human individuals is by no means universal with the species, nor, indeed, is it very common. The cat, to a certain extent, knows the voice and person of its master ; and, what is singular, cats have antipathies to particular individuals. The effects of discipline upon the cat are very inferior to the influence of chastisement or caresses upon the dog. The dog, when he is beaten or reproved for a particular offence, seldom repeats it ; the cat, as far as we have seen, can never be prevented importuning for food, jumping upon you—sitting in your chair—clambering upon a table—tearing furniture—scratching up plants—however constantly it may be beaten for these annoyances. Cats may be taught to perform tricks, such as leaping over a stick, but they always do such feats unwillingly. There is at present an exhibition of cats in Regent-street, where the animals, at the bidding of their master, an Italian, turn a wheel, draw up a bucket, ring a bell, and, in doing these things, begin, continue, and stop, as they are commanded. But the *commencez, continuez, arrêtez*, of their keeper is always enforced with a threatening eye, and often with a severe blow ; and the poor creatures exhibit the greatest reluctance to proceed with their unnatural employments. They have a subdued and piteous

look ; but the scratches upon their master's arms shew that *his* task is not always an easy one.

A strong affection for her young ordinarily prevails in the female cat ; and the feeling has sometimes produced an unusual foresight. The following fact is mentioned to us as having recently occurred. A short time before a cat produced kittens, she was observed to hoard up several mice and young rats, which she did not quite kill, but lamed, so as to prevent their escaping. One day after dinner, when our informant was sitting with a friend, the cat bounced into the room in eager chase of one of her maimed prisoners—a young rat which had, as it appeared from the report of the servants, been some days under surveillance in a back court. The rat sprung up the window-curtain for safety, but being unable to retain its position, was soon recaptured. This was a refinement of cruelty which peculiarly marks the species ; it was carrying the odious habit of torturing its prey, which is characteristic of the cat, to a disgusting extent.

It is by no means uncommon among the insect tribes to secure live prey for their future offspring. The ichneumon fly, for example, lays its eggs in the body of a live caterpillar, and the larvæ thence produced feed on it without killing it till their transformation into pupæ. The *sphex* also, or sand wasp, when it makes a nest, incloses in it a supply of live grubs, proportioned to the wants of the future offspring. The circumstance respecting the cat (which was verified in several instances) would not have been so remarkable had it occurred *after* she had had kittens ; but the prospective provision, whether for her own or their subsistence, is well worthy of notice. The same strength of maternal feeling sometimes induces cats which have lost their kittens, to continue for a week or two to bring mice and other provision to

their bed, in expectation of the return of the kittens. A gentleman informed us that more than a fortnight after his cat had been deprived of her kittens, she came in with a mouse, and searched all over the house for them with the prey, making a complaining noise.

These circumstances, which indicate the desire which the female cat has for the preservation of her young, are not incompatible with the well known fact of her rearing the young of other animals. The exercise of the maternal duties is always a strong gratification ; and it is not therefore wonderful that if the opportunity is suddenly withdrawn, the desire should adapt itself to any accidental means of satisfaction, however strange. We have many instances of this. Mr. White gives two well known examples in his history of Selborne, of a cat supporting a leveret and squirrels ; and Dr. Darwin has the following account of a similar circumstance :—" At Elford, near Lichfield, the Rev. Mr. Sawley had taken the young ones out of a hare which had been shot. They were alive ; and his cat, which had just lost her own kittens, carried them away, as it was supposed, to eat them ; but it presently appeared that it was affection, not hunger, which incited her, as she suckled them and brought them up as their mother."

The following anecdote, of a similar nature, has been communicated to us upon authority which we cannot doubt :—A cat and a bitch belonging to a lady chanced to have young at the same time. The cat, not liking the place assigned her for her kittens, carried them, without having been perceived, into a drawer containing clothes, which was soon afterwards pushed in and the kittens imprisoned in it. In the mean while, the bitch, having gone out of doors, was either stolen or killed, as she never re-

turned to her pups. These were found out, and adopted by the cat. A day or two after this singular adoption, the kittens were discovered in the drawer, so nearly starved that they all died except one within a week. The cat, however, continued to nurse both this one and her adopted pups till they were full grown.

One of the most remarkable peculiarities of the domestic cat is the property which its fur possesses of yielding electric sparks by rubbing. In frosty weather, this is occasionally very extraordinary. During the severe cold of January last, we several times received a very acute electrical sensation upon merely touching a large black cat lying before a fire. Mr. White says, speaking of the frost of 1785, "during these two Siberian days, my parlour-cat was so electric, that had a person stroked her, and been properly insulated, the shock might have been given to a whole circle of people."

It is a very prevalent notion that cats are fond of sucking the breath of infants, and consequently of producing disease and death. Upon the slightest reflection, nothing can be more obvious, than that it is impossible for cats to suck an infant's breath, at least so as to do it any injury; for even, on the supposition that they did so, the construction of their mouth must preclude them from interrupting the process of breathing by the mouth and the nose at the same time. The vulgar notion must have arisen from cats nestling about infants in beds and cradles to procure warmth. Cats are particularly solicitous to be comfortably placed as to temperature. In winter they get before the fire to sleep; in summer they seek the shade of a tree, where the air is fresh and cooling.

The cat ordinarily breeds thrice in a year, and goes with young fifty-five or fifty-six days. She brings four or five kittens, which she nourishes for

some weeks with great care. The average duration of a cat's life is about fifteen years.

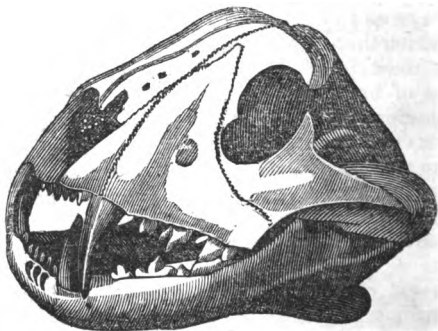
The following is the scientific character of the carnivorous genus *Felis*, which is found in Europe Asia, Africa, and America, but which has not yet been recognised in Australasia :—

Arrangement of the teeth ;—

Incisors, $\frac{6}{6}$. Canine, $\frac{1-1}{1-1}$. Molar, $\frac{4-4}{3-3}$ or $\frac{3-3}{3-3}$.

Total, 30 or 28.

The head round ;—the tongue covered with sharp prickles, pointing backward ;—the ears pointed ;—the pupils of the eye sometimes contracting in a vertical line, sometimes in a circle ;—three toes on the hind feet, and four on the front,—each armed with a retractile claw, which is *completely* retractile on the fore-feet.




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